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RHYNCHOTA.—Vol. V.

HETEROPTERA: APPENDIX.

BY

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EDITORS' PREFACE.

The Editors wish to draw attention to the fact that the current volume completes the Appendix to the Heteropterous portion of the Indian Rhynchota, and Mr. Distant has given us descriptions of a large number of forms which have been collected in various localities in British India since the previous volumes were published. A further volume, which will form an Appendix to the Homoptera, will complete the enumeration of the Indian Rhynchota, with the exception of the families Psyllidæ, Aphididæ, Aleurodidæ, and Coccidæ.

The thanks of the Author and Editors are due for much help received from various sources in India, amongst which especial mention should be made of the Authorities at the Indian Museum, Calcutta, and the Imperial Entomologist at Pusa.

It may be added that two other volumes of the Series are now in the Printers hands; Canon W. W. Fowler's work on the Cicindelidæ, Paussidæ, and a General Introduction to the Coleoptera; and Dr. N. Annandale's work on the Freshwater Sponges, Polyzoa and Hydrida of India.

A. E. SHIPLEY.
GUY A. K. MARSHALL.

December 1910.

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APPENDIX (*continued*).

Family LYGÆIDÆ. (Vol. II, p. 1.)

The most noteworthy incident which has arisen in connection with this family since it was previously enumerated in this series is a question of nomenclature, and applies to the name of the family itself. The question was first raised by the late Mr. Kirkaldy, who advocated the view that a family name should be founded on the oldest genus it embraced, and should be changed accordingly. He proposed three different emendations:—

Myodochidæ = *Lygæidæ*, auctt., Kirk., Entomologist, xxxii, p. 220 (1899).

Geocoridæ = *Lygæidæ*, auctt., Kirk., J. Bombay Nat. Hist. Soc. xiv, p. 306 (1902).

Pyrrhocoridæ = *Lygæidæ* + *Pyrrhocoridæ*, auctt., Kirk., Faun. Hawaiien. iii, pt. ii, p. 158 (1902).

The first of these substitutions has now been adopted by several writers on the family, but others and myself retain the original name. It is a similar disturbance in nomenclature as was advocated for the change of the well-known family name *Capsidæ* to that of *Miridæ* (*cf.* vol. ii, p. 413) and may well be left in the area of nomenclatory disputation.

To add to the confusion, and by necessity, Kirkaldy then proposed that the deposed name *Lygæidæ* should be substituted for another well known and universally employed family name *Coreidæ*. This suggestion, however, he recently discarded (Canad. Ent. 1910, p. 63), again adopted the name *Coreidæ* and advocated that *Lygæidæ* " should pass away into the realms of synonymy." The effect of these propositions has been disastrous; Dr. Sharp, in compiling the last 'Zoological Record,' has been compelled, " owing to the confusion now existing," to treat the families *Coreidæ*, *Lygæidæ*, and *Pyrrhocoridæ* in combination.

Since the enumeration of the *Lygæidæ* was published in these volumes, Dr. Horváth has published an excellent monograph of the Colobathristinæ as restricted by himself. The late Dr. Breddin has also described a number of species from Ceylon, accompanied by a considerable dislocation of the usually observed sequence in the arrangement of the subfamilies. These publications are incorporated in the following pages, but I have not seen any of Breddin's types, and in his description of species it should be remembered that that writer pursued an analytical rather than a synthetic process.

Subfamily LYGÆINÆ. (Vol. II, p. 2.)

Genus ÆTHALOTUS.

(To follow *Astacops*, Vol. II, p. 3.)

Æthalotus, *Stål*, *En. Hem.* iv, p. 98 (1874).
Astacops, *Stål* (nec *Boisd.*), *Hem. Afr.* ii, p. 125 (1865).

Type, *Æ. afzelii*, Stål, from West Africa.
Distribution. Ethiopian and Oriental Regions.

"Body very oblong or subelongate; head short, triangularly produced, deflected; eyes pedunculate, the peduncle of variable length; rostrum not passing the posterior coxæ; antennæ with the first joint short, not passing the apex of head; pronotum trapezoidal; scutellum equilateral; hemelytra complete; legs of moderate length, femora unarmed." (*Stål.*)

The above are the generic characters given by Stål when he described (1865) his West African type under the genus *Astacops*. He subsequently (1874) founded the genus *Æthalotus* for its reception, giving the following additional characters:—"Ocelli about twice as far removed from each other as from eyes; pronotum punctate."

The position of the ocelli (sometimes only one and a half times as far removed from each other as from eyes) and the punctate pronotum will serve to separate *Æthalotus* from *Astacops*.

2769. **Æthalotus horni**, *Bredd.*, *Deutsch. ent. Zeitschr.* 1907, p. 42.

"Pitchy black or black, covered with short dusty grey hairs, sides of vertex between the ocelli, antennal cavities and eyes, as well as each side of a submarginal posteriorly narrowing longitudinal stripe on the pronotum, orange-yellow; underside and back of abdomen dirty yellowish white; a spot on the ♂ genital plate, middle of pectus, rostrum, base of coxæ, femora (at least on upper side) as well as tibiæ and tarsi piceous brown; antennæ blackish brown, apical joint paler; membrane blackish.

"Head with the eyes nearly twice as broad as long, slightly exceeding the shoulder breadth; ocelli small, about one and a half times as wide apart as from the eyes, middle of front with a flat longitudinal impression which is also present in *Æ. afzelii* [the African type]; pronotum transverse, only slightly narrowed in front, pronotal process very distinctly punctured, also along the front margin of the pronotum, as well as in the depressions of the scutellum, there are a few fine punctures; corium between the ridges very finely and closely coriaceous; membrane not

passing the abdominal apex; rostrum extending to the intermediate coxæ; legs short, first joint of the posterior tarsi as long as or scarcely longer than the second and third joints together; antennæ with the first joint passing apex of clypeus, second and third equally long, fourth considerably longer than third." (*Breddin.*)

"Length, ♂ $4\frac{1}{2}$, ♀ $5\frac{1}{4}$ millim."

Hab. Ceylon; Puttalam, Anuradhapura (*fide Breddin*).

2770. **Æthalotus indicatus**, *Dist. A. M. N. H.* (8) iii, p. 318 (1909).

Above black; pronotum and corium finely, thickly, obscurely pilose; lateral margins of the pronotum (not reaching basal angles) dull sanguineous; head beneath, sternum, and legs black, prosternum dull sanguineous; abdomen beneath dull yellowish white, the apical segment black; coxæ and trochanters dull ochraceous; vertex (including eyes) twice as broad as long; ocelli about twice as far removed from each other as from eyes, between the ocelli a broad longitudinal impression, the margins of which are slightly

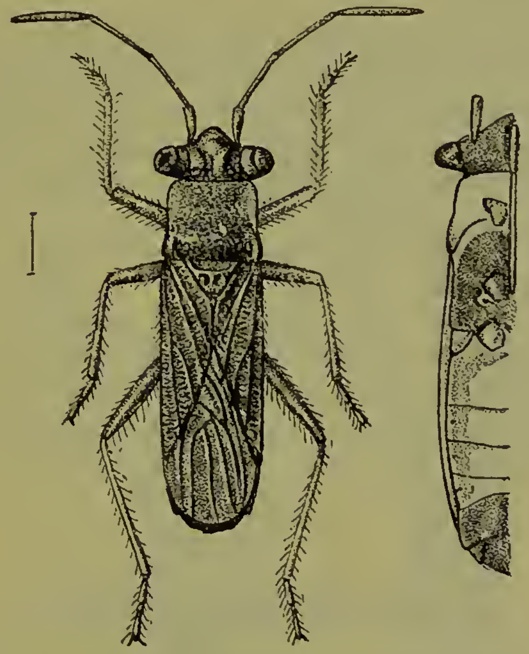

Fig. 1.—*Æthalotus indicatus.*

ridged; antennæ black, concolorous, second and third joints almost equally long, fourth longer than third; pronotum distinctly coarsely punctate, strongly transversely impressed, the anterior lobe thus well defined; scutellum with a strong central ridge, membrane not passing the abdominal apex; rostrum reaching the intermediate coxæ; first joint of the posterior tarsi shorter than second and third together.

Length $5\frac{3}{4}$ millim.

Hab. Tenasserim; Myitta (*Doherty*).

Larger than *Æ. horni*, Bredd.; first joint of posterior tarsi distinctly shorter than the second and third joints together; antennæ concolorous; eyes black; prosternum sanguineous, &c.

Genus **ONCOPELTUS**. (Vol. II, p. 4.)

2771. **Oncopeltus rubricatus**, *Stål* (Lygæus oncopeltus), *Öfv. Vet.-Ak. Förh.* 1870, p. 659; *id.* (Oncopeltus), *En. Hem.* iv, p. 101 (1874); *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 42.

"Reddish testaceous, remotely fuscously pilose, impunctate; antennæ, rostrum, membrane, mesosternum, metasternum, a spot on both the second and third ventral segments, fourth, fifth, and sixth ventral segments, anal appendage and legs black; membrane with the anterior basal angle and a small transverse spot before middle white; posterior margins of the mesosternum and metasternum, and lateral margins of the abdomen beneath behind middle, testaceous.

"Allied to the Ethiopian *O. famelicus*, Fabr., but the colour markings distinct; pronotum with a distinct, obtuse, longitudinal procurrent carination, the posterior angles backwardly distinctly produced, rounded or subangularly rounded; scutellum distinctly tumid, subdepressed, obtusely carinate." (*Stål.*)

"Length ♀ 12; breadth 4 millim."

Hab. Ceylon; Horrowapatam (*fide Breddin*). Cochin China, Philippines (*fide Stål*).

This species must be placed after *O. nigriceps* (vol. ii, p. 4), of which Stål stated his species might prove to be a variety. I include it here on the authority of Breddin, and presuming his identification to be correct. It has been contained in none of the large collections made by Mr. Green in Ceylon.

Genus **LYGÆUS**. (Vol. II, p. 5.)

LYGÆUS PANDURUS, *Scop.* (Cimex) *Ent. carn.* p. 126 (1763); *Oshan. Verz. Pal. Hem.* i (Heteropt.), p. 247 (1906), incl. synon.

Lygæus militaris, *Fabr.* (Vol. II, p. 6).

Prof. Oshanin, in his excellent and indispensable "Verzeichnis der Palæarktischen Hemipteren," has recently used Scopoli's name *pandurus* (1763) for that of *militaris*, Fabr. (1775), and therefore according to the strict rules of priority, I follow his direction.

2772. **Lygæus saxatilis**, *Scop.* (Cimex), *Ent. Carn.* p. 128 (1763); *Hahn* (Lygæus), *Wanz.* ii, p. 6, f. 119 (1834); *Oshan. Verz. Pal. Hem.* i (Heteropt.), p. 246 (1906).
Cimex tesselatus, *Goeze, Ent. Beitr.* ii, p. 265 (1778).
Eulygæus saxatilis, *Reut. Rev. Syn.* no. 118 (1888).

Sanguineous; antennæ, apex of head, and a broad lateral fascia before the eyes, pronotum with a broad anterior margin connected with two longitudinal broad fasciæ which reach the base and narrow anterior lateral margins, scutellum, nearly apical half of clavus, margins of corium, inwardly angulate on apical margin, and a large basal spot and an irregular transverse spot near middle, membrane, head beneath, sternum, central suffusions to abdomen beneath and a double row of lateral spots (one spiracular, the other marginal), rostrum and legs, black; sternum with a large sanguineous spot on the lateral areas of each segment; the black markings of the head and pronotum more or less coarsely punctate; scutellum with a central ridge.

Length 10 to 11 millim.

Hab. Sind; Kashmir (*fide Oshanin*). Widely distributed throughout the Palæarctic region.

2773. **Lygæus simla**, *Dist. A. M. N. H.* (8) iii, p. 319 (1909).

Black; pronotum with the anterior and lateral margins (the latter not reaching basal lateral angles) and a central longitudinal fascia sanguineous; corium sanguineous, with a broad, central, obliquely transverse, black fascia, not quite reaching clavus; body

Fig. 2.—*Lygæus simla.*

beneath and legs black; lateral margins of sternum, anterior margin of prosternum, acetabulæ, and posterior segmental margins (beyond middle of abdomen widened towards lateral margins), sanguineous; antennæ robust, second joint longest, third and

fourth joints about equal in length; pronotum with the anterior and lateral margins broadly and strongly ridged, the central sanguineous line marking a distinct longitudinal carination, the disk finely punctate; scutellum with a central longitudinal carination; clavus somewhat coarsely punctate; corium finely punctate; rostrum passing the intermediate, almost reaching the posterior coxæ: posterior tarsi with the first joint about as long as second and third joints together.

Length 9 to $10\frac{1}{2}$ millim.

Hab. Simla Hills; Matiana (*Annandale*).

2774. **Lygæus eous**, *Dist. A. M. N. H.* (8) iii, p. 319 (1909).

Sanguineous; antennæ, eyes, a central basal spot to head (containing a small sanguineous spot at base), two large transverse spots at base and preceded by two transverse lines to pronotum, scutellum, clavus (excluding base), a large oblong spot outside clavus posteriorly connected with a costal spot beyond middle of corium, membrane, rostrum, legs, a spot on each side of prosternum, disks of meso- and metasterna, and abdomen beneath black; lateral margins of abdomen to a little beyond middle sanguineous, apex

Fig. 3.—*Lygæus eous.*

of membrane broadly hyaline; antennæ moderately robust, second and fourth joints subequal in length, each a little longer than third; head punctate; pronotum more sparingly and coarsely punctate, transversely depressed behind middle at the region of the black basal spots, the lateral and anterior margins ridged; (scutellum mutilated in type by pin); clavus coarsely, corium very finely punctate; rostrum very slightly passing the intermediate coxæ.

Length 6 millim.

Hab. Calcutta.

Genus **GRAPTOSTETHUS.** (Vol. II, p. 8.)

GRAPTOSTETHUS MACULATUS. (Vol. II, p. 11.)

Var. sinhalana, *Kirk. Ann. Soc. Ent. Belg.* 1908, p. 10.

Apparently differs from the typical form as follows :—Head red, only the tylus obscurely fuscous ; an obscure suffused, submedian spot anteriorly on the pronotum ; no claval spot, but the clavus and corium irregularly suffused with fuscous ; antennæ, rostrum (except red first joint), and legs brownish fuscous ; sternites almost uniformly fuscous, tinged with red, a little redder baso-laterally, a little less red apically ; rostrum reaching to middle coxæ ; second joint of antennæ nearly a half longer than the third. (*Kirkaldy.*)

Length ?

Hab. Ceylon ; Sober Island (*Fletcher—fide Kirkaldy*).

Kirkaldy, while complaining of the "meagre descriptions" hitherto published of *G. maculatus*, has contributed the above indication which possibly refers to a distinct species rather than to a variety of *G. maculatus* ? He has, however, given no dimension. The type is in Honolulu, and therefore nothing more definite can be said about it at present.

2775. **Graptostethus collaris,** *Bredd.* (Pyrrhobaphus (Graptostethus)), *Deutsch. ent. Zeitschr.* 1907, p. 43.

"Very like *G. servus* (vol. ii, p. 8), but somewhat larger, of duller colouring, and with thicker dusty grey scaly covering ; the broad front margin of the pronotum (bordered behind by the red cicatrisant fork) black, greyishly pilose, with a median velvet-black longitudinal stripe, the round velvety black discal spots and the greyishly black transverse bands of pronotum running parallel to the hind margin and interrupted in the middle, as in *G. servus* ; head red ; clypeus and angle between ocelli, eyes and hind border, black ; lateral margins of scutellum bordered with red behind the middle ; apical joint of antennæ rather thicker and distinctly shorter than in *servus.*

"Easily distinguished from *servus* by colour of front half of pronotum." (*Breddin.*)

"Length ♀ $10\frac{1}{4}$ to $10\frac{1}{2}$ millim."

Hab. Ceylon ; Matala, Paradna (*fide Breddin*).

I have not seen this species.

2776. **Graptostethus verticalis,** *Dall.* (Lygæus), *List Hem.* ii, p. 548 (1852) ; *Dist.* (Graptostethus ?), *A. M. N. H.* (7) vii, p. 537 (1901).

Head red or reddish ochraceous with a large central black spot; pronotum red or reddish ochraceous with a large longitudinal black

fascia on each side but not reaching margins (the fasciæ are sometimes more or less broken and form four quadrate spots); scutellum black with the apex reddish ochraceous; corium red or reddish ochraceous, the clavus more or less blackish, the disk beyond middle with a prominent rounded black spot; membrane black with the apical margin white; head beneath and sternum reddish; abdomen beneath dull red with the apex black; legs pale brownish or piceous; antennæ black, thickly finely greyishly pilose, second joint a little longer than third, subequal in length to fourth; rostrum piceous, first joint reaching the anterior margin of the prosternum, apex extending to the posterior coxæ; pronotum with the posterior margin straight and with a sub-obsolete central carina; scutellum beyond middle obtusely carinate; posterior margin of metasternum obliquely sinuate, its posterior angles subacute. (To follow *G. maculatus*, Vol. II, p. 11.)

Length 6 millim.

Hab. W. Bengal; Paresnath, 4000 to 4400 feet (*Annandale*).

To Dallas's unique type was affixed no locality. A single specimen collected by Dr. Annandale now gives its habitat and includes the species in this fauna.

Genus **ASPILOCORYPHUS**. (Vol. II, p. 11.)

2777. **Aspilocoryphus ? modestus**, *Dist. A. M. N. H.* (8) iii, p. 320 (1909).

Head black, with a small dull ochraceous spot at base; antennæ dull ochraceous, the basal joint a little darker, the apical joint piceous; pronotum piceous, the lateral and apical margins, the central longitudinal carination, and a transverse series of four

Fig. 4.—*Aspilocoryphus ? modestus.*

large spots (two on each side of the central carination) dull ochraceous; scutellum piceous black, its apex dull ochraceous; corium dull ochraceous an apical fascia to clavus and longitudinal streaks

between the veins of corium black or piceous; membrane black, the apical margins broadly dull pale plumbeous, some of the veins greyish white; body beneath pitchy black, shortly and closely ochraceously pilose; margins of the sternal segments and the legs sordidly ochraceous, femora (excluding apices) brownish; rostrum and a spot on each side of the posterior margins of the pro- and mesosterna piceous; second joint of antennæ longest, third shorter than fourth; pronotum transversely impressed before middle, distinctly, centrally, longitudinally carinate, the black or piceous anterior area with two very distinct transverse cicatrices on each side; membrane not passing abdominal apex; rostrum passing the intermediate coxæ.

Length 4 millim.

Hab. Bombay (*Dixon*).

Genus **LYGÆOSOMA**. (Vol. II, p. 13.)

LYGÆOSOMA PUSILLUM. (Vol. II, p. 13.)

Var. Head not totally black but with the apical area reddish; in some specimens the "two large dark brown spots on the posterior margin" of the pronotum are also somewhat obsolete.

Add:—*Hab.* Bombay Prov.; Matheran (*Mus. Hongrois*).

Genus **PYRRHOBAPHUS**. (Vol. II, p. 14.)

2778. **Pyrrhobaphus? scutellatus**, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 43.

"♂ ♀. Pale sanguineous, with slight dusty grey tomentum; a large black discal spot on vertex encloses on the hind margin a small dull yellowish spot and is produced in front along the clypeus, where it gradually shades into a dirty red; pronotum on hind border with two large, nearly quadrate, deep black spots, which not infrequently coalesce and form a transverse band uniting with the black outer border of the shoulder angles; on the cicatrisant area two transverse blackish spots separated by the continuous red median line, and usually also, two shadow-like blotches on front marginal area before the cicatrices; scutellum deep black, the whole terminal half shining ivory-white; tegmina blackish striped with dusty grey, a nearly circular spot behind middle of corium almost touching costal margin, as well as an elongate longitudinal dash in clavus velvety black, scutellar margin of clavus in its basal half, as well as the whole posterior angle of the corium as far as the velvet spot, suffused roseate, costal margin before middle dull red; membrane deep black, its apex, extending over anus, white; underside of head and the pectus suffused with reddish, a longitudinal dash between the antennal tubercles and cheek plates, as well as the

scapular areas of the pleura and the broad front margin of the mesosternum, pitchy black intersected with grey, a round spot on the hind margin of the pro- and mesopleura (not the metapleura) velvet-black; abdomen beneath black intersected with grey; rostrum, legs, and antennæ pitchy black; head short, strongly concave, the cheek-plates extremely high, equally broad throughout (not gradually falling away behind), near hind margin suddenly and roundly declivous, covering basal joint of rostrum when seen from the side; pronotum trapezoidal with the lateral margins straight, very shallowly impressed, with a slight transverse impression separating the two main parts of the pronotum; the pronotal process, lying behind this, extensively and distinctly punctured, at least towards the front, also front border of the pronotum with a few distinct punctures; a faint longitudinal pronotal ridge; membrane only slightly passing the anus; rostrum extending to middle coxæ, first joint scarcely passing cheek plates; antennæ rather short, fourth joint thickened and a little longer than second joint." (*Breddin.*)

"Length $5\frac{1}{2}$ to $6\frac{1}{5}$ millim."

Hab. Ceylon; Anuradhapura, Horrowapatam, Nalanda (*fide Breddin*).

It is somewhat difficult to locate generically this apparently distinct species, which I have not seen, as Breddin treated *Graptostethus* and *Pyrrhobaphus* as one genus.

Genus **AROCATUS**. (Vol. II, p. 15.)

2779. **Arocatus continctus**, *Dist. Ann. Soc. Ent. Belg.* l, p. 410 (1906).

Head red, above with a broad central black fascia narrowing to apex; eyes, antennæ, and rostrum black; pronotum red, the anterior lobe and two broad sublateral fasciæ to posterior lobe black; scutellum black with a narrow central longitudinal red fascia; corium dull pitchy black, finely pilose, the extreme base red; membrane black, outer and apical margins hyaline; sternum testaceous, with a large black spot on the lateral areas of each segment; abdomen beneath piceous, finely pilose, the lateral and apical margins narrowly testaceous; legs piceous, pilose, coxæ and trochanters ochraceous; fourth joint of antennæ slightly shorter than the second; first joint of rostrum about reaching base of head; pronotum with the posterior lobe sparsely but coarsely punctate.

Length 7 to $7\frac{1}{2}$ millim.

Hab. Madura (*Dubreuil*); Pondicherry. Ceylon (*Brown, Vienna Mus.*); Eppawela (*Green*).

Allied to *A. sericans* (vol. ii, p. 15) but distinguished by the different markings of the pronotum and abdomen beneath; membrane longer, distinctly passing the abdominal apex.

Genus CONSIVIUS (to follow *Arocatus*, Vol. II, p. 15).

Consivius, *Dist. A. M. N. H.* (8) iii, p. 320 (1909).

Type, *C. collinus*, Dist.

Distribution. At present only recorded from Northern India.

Body elongate; head subtriangular, somewhat acutely produced at apex; ocelli placed nearer eyes than to each other; antennæ with the first and fourth joints distinctly thickened; rostrum reaching or slightly passing the intermediate coxæ; pronotum moderately narrowed in front, granulose, a distinct transverse ridge near anterior margin; scutellum about as long as broad, the lateral margins (except at base) distinctly ridged, the apical margin strongly ridged, granulosely punctate; membrane considerably passing abdominal apex; lateral margins of metasternum oblique and apically acutely produced, seen above on each side of the costal margins of corium; legs somewhat slender, posterior tarsi with the first joint distinctly longer than the second and third joints together.

Allied to *Arocatus* by the long scutellum, but differing from that genus by the structure of the scutellum and by the produced metasternal lateral angles.

2780. **Consivius collinus**, *Dist. A. M. N. H.* (8) iii, p. 321 (1909).

Body above sanguineous; antennæ, eyes, an angular patch on each side of base of head (including the ocelli), anterior marginal area, and a transverse somewhat bimaculate spot on each side of

Fig. 5.—*Consivius collinus.*

base of pronotum, basal half of scutellum, clavus, two spots on inner margin of clavus, and a large transverse spot behind middle of corium, the apical angle of the latter, and the membrane black,

apical margin of the membrane paler; body beneath sanguineous, rostrum, basal margin of head, anterior marginal areas of pro- and mesosterna, a prominent spot on the lateral areas of both meso- and metasterna, transverse fasciæ to abdominal segments (not reaching lateral margins), coxæ and legs, black; excluding membrane and including legs and antennæ greyishly pilose, the head at anterior margin very longly pilose; antennæ with the second, third, and fourth joints about subequal in length, first and fourth distinctly incrassated; pronotum somewhat coarsely granulose; scutellum coarsely granulosely punctate.

Length 10 millim.

Hab. Simla Hills.

Genus **CÆNOCORIS**. (Vol. II, p. 16.)

2781. **Cænocoris dimidiatus**, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 45.

"A small species allied to *C. nerii* (vol. ii, p. 16); lustreless, with slight grey tomentum; head (also the throat) pale sanguineous, clypeus and a rectangular spot in front between the ocelli and base of clypeus black; pronotum with a slight, flat, transverse impression; the pronotal process slightly elevated towards the base, more coarsely and much more diffusely punctured than in *nerii*, in the middle almost impunctate; the furrowed lines of the pronotum proper very distinct and oblique, directed towards neck-angles; scutellum with a continuous longitudinal ridge expanded at its base and with a sharp apex; tegmina as in *nerii*; pronotum, scutellum, and tegmina black; a continuous middle line to scutellum, a broad median stripe on the pronotal process, the lateral margins and the narrow hind border of the pronotum (sometimes also the front marginal line) and the extreme bases of corium and clavus pale sanguineous, but dull and diffused on the latter parts; membrane black, its apical margin broadly dull hyaline; abdomen beneath, sternum, legs, antennæ and rostrum pitchy black or black; abdomen above, and a broad border to abdomen beneath pale sanguineous, also the hind margins of the three sternal segments; the margins of the coxal cavities, the mouth of the thoracic gland, the front border of the prosternum, as well as the trochanters and the terminal border of the coxæ pale yellow; rostrum extending beyond the middle of the third abdominal sternite; antennæ moderately long, fourth joint about as long as second, somewhat thickened, third joint distinctly shorter." (*Breddin.*)

"Length, ♂ $6\frac{1}{2}$, ♀ $8\frac{1}{3}$ millim."

Hab. Ceylon; Negombo (*fide Breddin*).

I have not seen this species.

Genus **NYSIUS**. (Vol. II, p. 17.)

2782. **Nysius minor**, *Dist. A. M. N. H.* (8) iii, p. 321 (1909).

Resembling *N. ceylanicus*, Motsch. (vol. ii, p. 18), but as a rule smaller in size; antennæ with the second and third joints ochraceous or brownish ochraceous, first and fourth joints more or less piceous, second and third joints of antennæ subequal in length, whereas in *N. ceylanicus* the second joint is distinctly longer than the third, and all the joints piceous in coloration.

Length 3 millim.

Hab. Bengal; Pusa and Patna.

2783. **Nysius lacustrinus**, *Dist. A. M. N. H.* (8) iii, p. 321 (1909).

Head ochraceous, the margins of the central lobe black and a black cicatrisant punctate fascia on each side before eyes extending from above antennæ to base; antennæ brownish ochraceous, the basal joint blackish; pronotum ochraceous, darkly punctate, and thus forming longitudinal fasciæ; scutellum piceous brown, a pale central line on apex; body beneath and legs ochraceous; sternum with a central greyish and a lateral plumbeous longitudinal fascia,

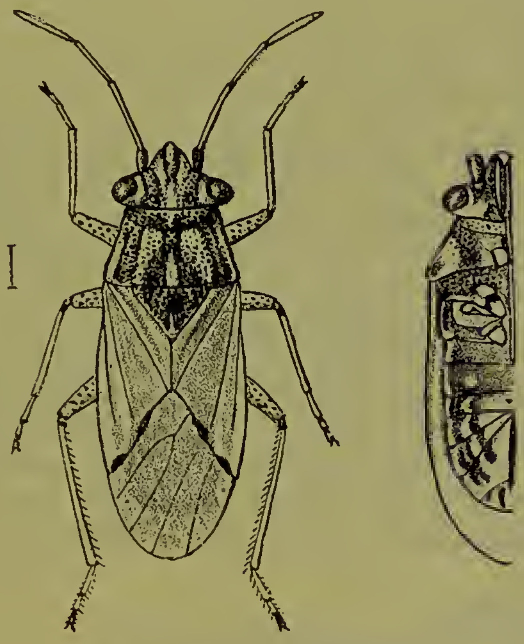

Fig. 6.—*Nysius lacustrinus.*

posterior margin of metasternum greyish white, head beneath greyish; abdomen with the base and lateral margins more or less plumbeous; legs pale ochraceous, femora spotted with castaneous, apices of tarsi black; rostrum black, slightly passing the posterior coxæ; antennæ with the second joint longest, fourth joint a little

longer than third; head with the punctures coarse; pronotum transversely impressed before anterior area, which is coarsely punctate, the other punctures also coarse; scutellum more finely punctate, the basal area a little gibbous; corium hyaline, with a yellowish tint, two black lines on its apical margin; membrane hyaline, considerably passing the abdominal apex; sternum coarsely punctate.

Length 4 millim.

Hab. N.W. India; Kumaon, Bhim Tal.

Allied to *N. dohertyi*, Dist., but differing by the larger size, differently coloured and longer antennæ, though the relative lengths of the joints are much the same, scutellum more gibbous, &c.

NYSIUS INCONSPICUUS. (Vol. II, p. 18.)

Since I described this species from the Bor Ghát I have received a number of specimens from other parts of India. In some of these the veins to the corium are either spotted (as described) or wholly pale fuscous; the basal joint of the antennæ as well as the apical joint is most frequently infuscate, second joint slightly longer than the third, third and fourth subequal in length.

Add:—*Hab.* Lucknow; Calcutta; Matiana, Simla Hills. Burma; Rangoon.

2784. **Nysius melanicus**, *Dist. A. M. N. H.* (8) iii, p. 322 (1909).

Head, pronotum, and scutellum thickly piceously or blackly punctate; antennæ black, apex of fourth joint slightly brownish ochraceous; body beneath and legs black; coxæ, extreme apices of the femora, tibiæ, and tarsi brownish ochraceous; corium pale obscure luteous hyaline, the costal area clear and unspotted, the veins, and the apical margin medially interrupted, piceous or black; second joint of antennæ distinctly longer than the third, third and fourth joints almost subequal in length; pronotum coarsely punctate, with a somewhat obscure central longitudinal ridge; scutellum with a longitudinal ridge commencing at about one-third from base, where it is distinctly tuberculous; membrane hyaline, considerably passing the abdominal apex; rostrum reaching the intermediate coxæ.

Length 4 millim.

Hab. Kumaon, Bhim Tal; Simla Hills.

Subfamily CYMINÆ. (Vol. II, p. 19.)

Genus **NINUS**. (Vol. II, p. 19.)

Cymoninus, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 38.

2785. **Ninus singalensis**, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 39.
? Ninus insignis, *Stål, Freg. Eug. Resa, Hem.* p. 253, t. iii, f. 5 (1859).

"Upperside pale rusty-yellowish, central line on front, three large rhomboidal longitudinal spots (which touch one another) on front half of pronotum, a spot in middle of hind margin, as well as the scutellum, with mouldy-white tomentum; tegmina slightly yellowish hyaline, the veins on membranal suture, on the terminal border and scutal border yellowish; hinder angles of clavus, the outer quarter of membranal division, and a streak on costa behind middle pitchy black; a dash which runs from the last streak towards the base of inner membranal vein, yellowish; impressed punctures within this dash as well as an accompanying series of very fine punctures along the membranal suture, blackish; membrane hyaline, two short streaks in basal half towards the costal margin pitchy black, the base of two longitudinal veins as well as a suffused narrow straight longitudinal dash—more distinct behind—smoky grey; eyes distinctly stalked, projecting obliquely in front and outwardly; head and eyes as broad as pronotum between the shoulders; costal borders of tegmina parallel in their basal fifth, outwardly with a long and thick white fringe, then rather strongly widened and distinctly rounded.

"Very similar to, and perhaps identical with, *N. insignis*, according to Stål's figure and description." (*Breddin.*)

"Length 4; exclud. membrane $3\frac{2}{5}$ millim."

Hab. Ceylon; Weligama (*fide Breddin*).

I have not seen this species. Stål's *N. insignis* which Breddin thinks is possibly the same as the species he describes as new, was from the island of Guam.

2786. **Ninus subunicolor**, *Bredd.* (Cymoninus), *Deutsch. ent. Zeitschr.* 1907, p. 39.

"Rusty-yellow; abdomen beneath pale rusty brown; sternum suffused pitchy brown; head, pronotum and scutellum with fine greyish white tomentum; two longitudinal stripes to pronotum and its outer margin pale rusty yellow; the hyaline membrane with a smoky grey longitudinal dash at tip, directed towards inner basal angle; head with eyes rather narrower than pronotum between the shoulders, the ocelli less remote from each other than from eyes; pronotum before the shoulders with straight sides,

narrowed in front, anteriorly with a slight collar-like constriction, not very distinctly punctured, on the cicatrisant region, on each side, a short transverse linear impression, and from the inner end of each runs a shallow longitudinal furrow, these furrows converging to the hind margin; clavus not punctured, bordered along each margin with a row of very fine brown dots; similar rows of dots also occur on the corium, in the membranal division and on the outer side of the subcostal principal vein; antennæ with the first joint scarcely as long as the long axis of the eyes, scarcely reaching beyond clypeus, second joint about one and a quarter times as long as third which is rather shorter than the elongate fourth; rostrum slightly passing the anterior coxæ, first joint extending to hind border of throat and much longer than second; upperside with scattered upright hairs; abdomen beneath with short woolly hairs." (*Breddin*).

"Length including membrane $3\frac{1}{4}$ millim."

Hab. Ceylon; Weligama (*fide Melichar*).

I have not seen this species. Breddin has proposed a new genus (*Cymoninus* for its reception), which from the characters given appears to be of scarcely subgeneric value and it is therefore not used in this enumeration.

Genus **CYMUS**. (Vol. II, p. 21.)

2787. **Cymus nanulus**, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 38.

"♂ (?). Clear pale rust-brown, extreme tip of hind angle of corium and the claws black; last joint of antennæ, excepting base, brownish. The smallest species known to me; ocelli scarcely one and a half times as far removed from each other as from eyes; apices of juga obtuse, not projecting; pronotum shorter and more strongly arched than in the European species, thickly punctate, only between the cicatrices with a faint trace of a median keel; scutellum punctate with a faint keel; corium both outside and inside strongly and regularly punctate, without a smooth longitudinal vein; first joint of antennæ not quite reaching tip of clypeus, second not thicker and at most about one-fourth shorter than third, near the end faintly clubbed, fourth very slender, spindle-shaped, longer than second, a little shorter than third." (*Breddin.*)

"Length $2\frac{2}{3}$ millim."

Hab. Ceylon; Negombo (*fide Breddin*).

I have not seen this species.

Subfamily BLISSINÆ. (Vol. II, p. 21.)

Genus **PIRKIMERUS**. (Vol. II, p. 22.)

2788. **Pirkimerus nicobarensis**, *Dist. A. M. N. H.* (8) iii, p. 322 (1909).

Head, pronotum, scutellum, and body beneath pitchy-brown; first, second, and third joints of antennæ, rostrum, and legs ochraceous; fourth joint of antennæ pitchy-brown; hemelytra pale umber-brown; outer margin of clavus, an elongate marginal spot before middle, and a marginal spot to membrane pale ochraceous; between these spots the margin is much darker ochraceous; second and third joints of antennæ subequal in length, each a little longer than first, fourth longest, incrassate and pilose; pronotum strongly transversely impressed, punctate and wrinkled at anterior margin,

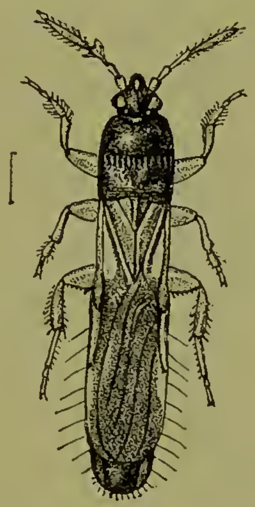

Fig. 7.—*Pirkimerus nicobarensis.*

the posterior area discally foveately depressed, anteriorly coarsely punctate, posteriorly finely transversely striate; scutellum distinctly centrally longitudinally carinate; membrane not quite reaching the apical abdominal segment; posterior femora finely spined beneath, the posterior tibiæ strongly marginally setose; basal joint of posterior tarsi much longer than the second and third joints.

Length 5 millim.

Hab. Nicobar Islands (*Rogers, Brit. Mus.*).

Genus **MACROPES**. (Vol. II, p. 24.)

2789. **Macropes dilutus.** (Vol. II, p. 25.)

Var. nesiota, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 45.

"Head, pronotum, scutellum, abdomen above, underside, legs and antennæ deep black; tibiæ pitchy-black, tarsi (at least basally),

and generally first joint of antennæ suffused pitchy-brown; tegmina extending to sixth abdominal segment, milk-white, towards costa slightly yellowish, basal third of clavus, claval suture, as well as inner principal vein, the membranal division and the whole terminal half of corium, black; in the membrane the following markings are milk-white—basal angle, sickle-shaped apical mark, as well as a marginal spot on and behind the posterior angle of corium which extends as a somewhat interrupted band in the interior of membrane." (*Breddin.*)

"Length $5\frac{2}{3}$–6 millim."

Hab. Ceylon; Kanthaley, Anuradhapura (*fide Breddin*).

M. dilutus was described from North India and Burma. The variety? described by Breddin is from Ceylon.

2790. **Macropes leucoderma,** *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 46.

"Deep black, shining, the punctate areas clothed with short grey pile; abdomen suffused pitchy-brown, the connexival border and the area of ventral margin rusty-brown; hind margin of metapleura pale yellow towards outside; hemelytra whitish, near costa light yellowish; clavus and a broad transverse band which covers the tip and also the inner angle of membrane (about one-third length of membrane) black, remainder of membrane uniform milk-white; terminal suture of clavus, legs and antennæ rusty-yellow; femora (basally), sides of tibiæ, and the third joint of antennæ, except the base, more or less brown, fourth antennal joint black; body narrow and delicate, head small, with the eyes little more than half as broad as pronotum between the shoulders; pronotum produced, distinctly rather longer than broad, flattened, pronotum proper nearly twice as long as the process, smooth, in front finely punctured, on the sides finely wrinkled, in middle without longitudinal furrow which is replaced by two approximating rows of fine points; process of pronotum without recognisable transverse impression, closely and finely wrinkled and punctate, only its hinder area smooth, hinder margin smooth and concave; scutellum punctate, dull, with a rather broad, smooth, middle keel; hemelytra short, not reaching middle of dorsal surface of abdomen, inner main vein of corium very near claval suture; third joint of antennæ little shorter than second, fourth about one and two-thirds as long as third." (*Breddin.*)

Length "$4\frac{1}{2}$ millim."

Hab. Ceylon; Bandarawella (*fide Breddin*).

I have not seen this species.

2791. **Macropes sinhalanus,** *Kirk. Canad. Ent.* xxxix, p. 332 (1907).

"Black (shining on head and pronotum), with sparse, very pale yellowish hairs; apex of tylus and the first and second antennal segments [*joints*] pale ochraceous, third and fourth dark fuscous;

clavus piceous, very narrowly margined with testaceous, rest of tegmina opaque milky-white, inner margin (very narrowly) of corium, and a broad suffused band across the middle (somewhat obliquely covering junction of corium and membrane) dark fuscous; labium [*rostrum*] and legs more or less piceous, first two segments [*joints*] of tarsi brownish-testaceous, hind tibiæ dark piceous; antennæ 4, 10, 11, 20; labium [*rostrum*] reaching to about the fore coxæ; pronotum anteriorly and posteriorly punctured; a double, rather feeble line of punctures down the middle, roundly curved outwards laterally, sides of hind area parallel, posteriorly emarginate; hemelytra reaching to apical margin of third segment; fore femora comparatively strongly spined." (*Kirkaldy.*)

Length "$5\frac{1}{4}$ millim."

Hab. Ceylon; Peradeniya (*fide Kirkaldy*).

I have not seen the insect on which this species is proposed. It appears to be very closely allied to the preceding species *M. leucoderma* Bredd., and may prove to be identical with it.

2792. **Macropes raja,** *Dist. A. M. N. H.* (8) iii, p. 323 (1909).

Head, antennæ, pronotum, scutellum, abdomen above, body beneath, and femora black; first and second joints of antennæ (excluding extreme apices of second joint), tibiæ, and tarsi pale ochraceous; hemelytra milky white; internal vein and margins of clavus, two principal veins of corium on apical half, the oblique margin separating corium from membrane, two internal curved veins and a large discal spot to membrane, piceous; second and fourth joints of antennæ subequal in length, each a little longer than third; pronotum with the anterior area or lobe smooth and centrally longitudinally grooved or sulcate, the posterior area or lobe coarsely punctate and depressed, with a distinct transverse ridge before basal margin, the lateral margins concave; hemelytra reaching the anterior margin of the fifth abdominal segment; rostrum passing the anterior coxæ.

Length 6 millim.

Hab. Calcutta.

This species is allied to both *M. spinimanus*, Motsch. (vol. ii, p. 24), and *M. punctatus*, Walk. (vol. ii, p. 25), by the sulcated anterior pronotal lobe: from *M. spinimanus* it is to be separated by the longer hemelytra and the colour of the legs; from *M. punctatus* it differs in the smaller size, the ochraceous first and second antennal joints, more distinct sulcation to pronotum, ochraceous tibiæ, &c.

2793. **Macropes singularis,** *Dist. A. M. N. H.* (8) iii, p. 323 (1909).

Head, pronotum, scutellum, body beneath, and legs black; apices of femora and the whole of the tibiæ more or less castaneous; tarsi ochraceous; antennæ piceous brown, the extreme apices of the joints paler; ocelli shining carmine-red; hemelytra creamy white, costal margin of corium slightly yellowish; clavus, corium at claval

margin and apical area to corium, black; basal area of membrane black (not reaching inner margin) and narrowly connected with a large elongate black spot, which almost extends to lateral and apical margins; abdomen above black; second and third joints of antennæ

Fig. 8.—*Macropes singularis.*

subequal in length, fourth longer than either second or third; pronotum elongate, centrally as long as broad at base, punctate, transversely impressed behind middle and thence roundly narrowed to head, basal margin concave, a small pale impunctate spot near each basal lateral angle; scutellum punctate excepting basal area, a central longitudinal ridge extending from about middle to apex; hemelytra reaching base of apical abdominal segment; rostrum slightly passing anterior coxæ, black, with the apices of the joints a little paler.

Length $6\frac{1}{2}$ millim.

Hab. Ceylon; Pundaluoya (*Green*).

2794. **Macropes uniformis,** *Dist. A. M. N. H.* (8) iii, p. 324 (1909).

Head, pronotum, scutellum, and sternum black; antennæ with the first, second, and third joints dull ochraceous, fourth joint black, its base ochraceous; apex of head, posterior margin of pronotum, and legs castaneous; rostrum, tibiæ, and tarsi more or less ochraceous; corium very pale stramineous; membrane very pale greyish brown; abdomen piceous brown, thickly, finely, greyishly pilose; antennæ with the third joint longer than second, fourth considerably longer than either second or third; pronotum with the anterior lobe subglobose, broad, shining, obscurely centrally longitudinally sulcate on disk, sparingly punctate, the transverse constriction about one-third from base, the basal area transversely wrinkled or striate, the anterior lobe laterally a little convexly ampliated, the posterior margin concave; scutellum short, broad, centrally longitudinally ridged from about middle to apex; mem-

brane extending to the penultimate segment of the abdomen; anterior femora strongly incrassated and shortly spined beneath.

Length 5 millim.

Hab. Calcutta.

Allied to *M. subauratus*, Dist. (vol. ii, p. 26), by the uniformly coloured corium and membrane; from that species it differs in the colour of the antennæ and legs, the broader and more globose anterior pronotal lobe, the shorter membrane, &c.

2795. **Macropes privus**, *Dist. A. M. N. H.* (8) iii, p. 325 (1909).

Head, antennæ, eyes, pronotum, and scutellum black, moderately shining; body beneath and legs black, apices of the femora and the whole of the tibiæ pale castaneous, tarsi ochraceous; clavus and corium greyish white, the claval suture and the outer marginal area to corium (widened posteriorly) piceous; membrane black, its basal angle greyish white; antennæ with the extreme apices of the joints paler, second and third subequal in length, fourth longest, pyriform and palely pilose; pronotum considerably longer than broad, thickly punctate, the basal margin concave, two smooth cicatrices in transverse series on anterior area, and two similar but narrower cicatrices near middle; scutellum distinctly ridged, transversely at base, and longitudinally in the centre, its disk finely granulose; margins of clavus, the subclaval vein to corium, and the inner half of the apical margin to corium pale yellowish; membrane smooth, shining, reaching the base of the sixth abdominal segment; connexivum and abdomen beneath very shortly but thickly ochraceously pilose, the latter with a double series of small black points on each side; rostrum shining piceous black, about reaching the anterior coxæ; anterior femora strongly incrassate, finely spined beneath.

Length $5\frac{1}{2}$ millim.

Hab. Ceylon; Peradeniya (*Green*).

Allied to *M. præcerptus*, Dist. (vol. ii, p. 26), but smaller, anterior lobe of pronotum not sulcate, colour of membrane, corium, and legs different, &c.

2796. **Macropes thoracicus**, *Dist. A. M. N. H.* (8) iii, p. 325 (1909).

Head, pronotum, scutellum, and sternum black; basal margin of pronotum and the abdomen pale testaceous; rostrum and legs orange-yellow; corium very pale ochraceous; membrane creamy white; antennæ piceous or black, the basal joint and extreme apices of second and third joints ochraceous, second and fourth joints subequal in length, each considerably longer than third; pronotum short, a little broader than long, transverse impression about one-fourth before posterior margin, the anterior area or lobe opaque, coarsely irregularly punctate; corium shorter than membrane, which extends to the penultimate segment of the abdomen;

rostrum reaching the anterior coxæ; anterior femora moderately incrassated, obscurely spinous beneath.

Length 5 millim.

Hab. Nepal.

By the uniformly coloured corium and membrane allied to *M. subauratus*, Dist. (vol. ii, p. 26), and *M. uniformis*, Dist. (*ante*, p. 20). From both it differs and is sub-generically distinct by the shorter and comparatively broader pronotum and the short posterior area or lobe, the short corium, &c.

Genus **ISCHNODEMUS**. (Vol. II, p. 27.)

2797. **Ischnodemus erebus**, *Dist. A. M. N. H.* (8) iii, p. 326 (1909).

Head, pronotum, scutellum, abdomen above, and body beneath black; corium dull ochraceous, streaked longitudinally with castaneous brown; membrane (reflecting the dark abdomen beneath) black; femora black, their apices and the whole of the tibiæ and tarsi brownish ochraceous; antennæ brownish ochraceous, apical joint (excluding base) blackish, second joint slightly longer than the third, fourth joint considerably longest; vertex thickly finely granulose; pronotum coarsely punctate and granulose, finely palely pilose, more longly pilose on lateral margins, some obscure tuberculous elevations on anterior disk; scutellum granulose and punctate, palely pilose, a little depressed on disk; corium somewhat strongly palely pilose, especially on lateral margins; membrane neither reaching the abdominal apex nor covering the connexivum, which is exposed for nearly its entire length.

Length $2\frac{1}{2}$ to 3 millim.

Hab. Bombay Province; Matheran, 2500 feet (*Pusa Coll.*).

Differing from *I. noctulus*, Dist. (vol. ii, p. 27), by its smaller size, the exposed connexivum, absence of subapical pale spot to membrane, the granulose head, pronotum and scutellum, pale anterior tibiæ, &c. I have examined a series of this species, but, unfortunately, all the specimens were in a somewhat greasy condition, which rendered the colour-characters more or less difficult to identify, especially as regards the hemelytra.

2798. **Ischnodemus atromaculatus**, *Dist. A. M. N. H.* (8) iii, p. 326 (1909).

Head, pronotum, and scutellum black, palely pilose; corium pale ochraceous, with the basal angle and a large spot near apex black; membrane blackish, its basal angle and a spot near the apical margins of corium pale ochraceous; body beneath black; femora black, their apices and the whole of the tibiæ and tarsi pale ochraceous; antennæ black, second joint a little longer than third, fourth longest and thickest; vertex finely granulose, subacutely prominent anteriorly; pronotum somewhat coarsely granulose, about as long as broad at base, the lateral margins a

little convexly rounded; scutellum sparingly but coarsely granulose; membrane not quite reaching abdominal apex nor covering connexivum; corium strongly palely pilose, covering or almost covering the connexivum.

Length 2 to $2\frac{1}{2}$ millim.

Hab. Bombay Province; Matheran, 2500 feet, Igatpuri, 2000 feet (*Pusa Coll.*).

As in the previous species, the specimens on which this one is founded are in a more or less greasy condition, which renders the coloration difficult to determine. This more particularly applies to the membrane, which in some examples appears to be brownish grey, with the veins piceous.

Besides the distinct markings of the corium the species is to be recognized by the broader and comparatively shorter pronotum, with its more convexly rounded lateral margins.

Subfamily GEOCORINÆ. (Vol. II, p. 29.)

Genus **GEOCORIS**. (Vol. II, p. 29.)

2799. **Geocoris superbus**, *Montand.* (Piocoris), *Ann. Mus. Nat. Hung.* v, p. 96 (1907).

"Head of moderate size, a little narrower (including the eyes) than the breadth of the pronotum behind, smooth, of a brilliant ochraceous yellow with the part anterior a little arched before the eyes, the extremity of the genæ and of the tylus a little prominent; eyes not very projecting nor much prolonged behind, intraocular space in front nearly twice as broad as the transverse diameter of one

Fig. 9.—*Geocoris superbus.*

eye; pronotum very transverse, about twice as broad at the base as medially long with the lateral margins converging in front, the anterior margin a little roundly arched, thus forming a very obtuse anterior angle at the junction with the lateral margins; surface of the pronotum smooth, brilliant, with some very scarce and superficial punctures, a little more dense and better marked on a transverse discoidal line, which posteriorly limits the cicatrices,

the latter being entirely smooth, and without punctuation right up to the anterior margin; pronotum brilliant ochraceous with a large black triangular spot at the base, this spot a little larger than the scutellum and its apex extending forwards to near the cicatrices; the punctuation very faint and concolorous, ochraceous on the pale areas, black on the triangular area; scutellum a little longer than broad at base, entirely black, smooth at base, the punctures stronger than on the pronotum, but sparse and unequal on the posterior two-thirds, apex slightly enlarged, a little spatulate, narrowly rounded and brownish; corium flavescent, smooth and brilliant at the base and on the disk, claval suture with a black fascia a little enlarged behind at the internal angle of the corium, margin and striated submarginal punctures narrowly black, with a large black spot covering the apical angle, the punctuation dense but very superficial; membrane yellow at the internal angle, with a median transverse brown suffusion and hyaline at apex which distinctly passes the abdominal apex; antennæ mutilated, first joint ochraceous, very strong, second joint entirely black; head beneath and prosternum ochraceous without spots, the latter with dense and concolorous punctuation; meso- and metasterna black, with some pale patches scattered with black punctures; orifices, coxæ and legs yellow without spots; abdomen beneath brilliant black with the posterior margin of the last segment very narrowly ochraceous." (*Montandon.*)

Length 4 to 5 millim.

Hab. Bengal; Mandar and Barway.

By the kind assistance of Dr. Schouteden, I have been able to figure the type of this species.

Geocoris pulvisculatus. (Vol. II, p. 30.)

When I originally described this species from a single Burmese carded specimen, I was unable to describe the underside of the body. From Indian examples recently received, the body beneath and legs are seen to be pale luteous; antennæ with the third joint shorter than second or fourth joints which are subequal in length; the rostrum imperfectly seen in the carded type is found to have the first and second joints subequal in length, not first longer than second as originally described, its apical joint almost reaching the posterior coxæ; sternum coarsely punctate; the pronotal cicatrices are sometimes a little darker in hue.

Add:—*Hab.* Punjab; Lahore. Bengal; Katihar, Purneah, Calcutta (*Ind. Mus.*).

2800. **Geocoris dubreuili**, *Montand. Ann. Soc. Ent. Belg.* 1909, p. 128.

Head ochraceous, the eyes visibly pedunculate, a somewhat obsolete central impressed line not reaching base; antennæ with the first and fourth joints dull ochraceous, the second and third joints black, pronotum ochraceous, very coarsely blackly punctate,

the lateral margins and the posterior angles impunctate, a slight transverse ridge on the anterior area indicating the position of the cicatrices and containing one or two series of black punctures; scutellum entirely black, a little narrowly pale brownish colour on the edges near the apex, very strongly punctate, and centrally obsoletely longitudinally carinate; corium entirely yellow, brilliant, shining, distinctly punctured on apical area; membrane passing the abdominal apex, paler and more greyish than the corium; head beneath yellow, body beneath brilliant black, connexivum beneath with a small yellow spot on the external margin of each of the segments; rostrum and legs yellow, the femora slightly annulated with brownish near apices.

Length "3·3 to 3·6 millim."

Hab. Madura District; Shembaganur (*Dubreuil, Coll. Montand. & Brit. Mus.*). Pulney (*Paris Mus.*).

In this enumeration *G. dubreuili* may be placed after *G. lituratus*, Fieb. (vol. ii, p. 30); the British Museum contains co-types of the species received from Dr. Montandon.

GEOCORIS ANNULICORNIS, *Sign. Ann. Mus. Civ. Genova*, xv, p. 539 (1880); *Montand. Bull. Soc. Sci. Bucarest*, xvi, p. 85 (1907).
Geocoris fenestellus, *Bredd. Soc. Ent.* xvi, p. 10 (1901).
Geocoris splendidus, *Dist.* (vol. ii, p. 30).

Montandon (*supra*) has compared the types of the above species and has satisfied himself as to their identity, though the species is of a variable character. The name *G. splendidus*, Dist. must therefore be suppressed and *G. annulicornis*, Sign. substituted for it. It is also found in India (Trichinopoly) and extends as far as New Guinea.

2801. **Geocoris maindroni**, *Montand. Bull. Soc. Sci. Bucarest*, xvi, p. 90 (1907).

"In form robust; flavous, varied with brown and black spots, bristling on all the upper part with hairs somewhat long and a little dense; head blackish, almost glossy, moderately shiny on the middle, with the apex of the central lobe and a spot on each side of the anterior margin near the eyes flavous-brown; prolonged subcircularly in front of the eyes with the central lobe and the extremities of the cheeks a little prominent, about twice as broad between the eyes as long; eyes of moderate size, not very globose but lengthened behind over the anterior angle of the pronotum; antennæ slender, flavous, the second joint a little brownish, rather densely clothed with oblique hairs which are somewhat longer than the thickness of the joint; the fourth joint a little shorter than the second and a little longer than the third; pronotum flavous brown, moderately transverse, trapezoidal, with the anterior angles truncated behind the eyes, distinctly broader posteriorly than the median length, the surface a little rugulose, the punctuation irregular and very dense, leaving only the posterior margin

narrowly impunctate and paler, the cicatrices equally smooth and black, the black colour becoming more and more diffused behind the cicatrices on each side of the median longitudinal line, which remains entirely flavous; all the surface covered with long bristly hairs as on the head; scutellum very broadly black at the base, strongly granulose, punctured on all the surface excepting the pale whitish apex which remains smooth and obtusely carinate, similarly pilose as on pronotum; corium flavous, glossy, brilliant, with the extreme base blackish and a large black brilliant subrounded and rather irregular spot on the middle of the disk, a pilosity resembling that of the scutellum near the base and on the edges, scarcer on the disk and nearly absent near the apex; membrane narrowly white, milky at the base, brilliant black on the disk and the apical area which does not extend beyond the abdominal apex; head beneath and sternum flavous, the punctuation brownish, impunctate and pale at the coxal cavities. the orifices, the anterior margin of the prosternum and more narrowly at the posterior margins of the meso- and metasterna; abdomen entirely brilliant black, with a large pale yellow spot on the posterior half of each of the segments of the connexivum; legs pale yellow, tibiæ with fine and clearly seen hairs; rostrum pale with its apex brownish." (*Montandon.*)

Length "3·7 millim."

Hab. Kurrachi (*Maindron, Paris Mus.*).

Allied to *G. hirsutus*, Montand. I have not seen this species.

2802. **Geocoris kalighatus**, sp. n.

Head, antennæ, pronotum, scutellum, and body beneath black; apex of third joint and the whole of fourth joint of antennæ, apical margin of head, apex of scutellum, rostrum and legs, ochraceous; hemelytra stramineous, corium with a large black apical spot which occupies a little more than the apical third of the whole area; coxæ and small lateral spots to sternum obscure greyish; antennæ finely pilose, second joint slightly longer than fourth, each distinctly longer than third; head with the anterior margins longly pilose, the disk with short, semierect hairs, punctate, and with a foveate impression near bases of antennæ; pronotum coarsely punctate, with somewhat erect pale hairs, and with a transverse impression on anterior area; scutellum coarsely punctate, more sparsely so on apical area; corium with its lateral margins slightly convex, longitudinally punctate along the principal veins and granulose on about basal third of costal margin where there are long marginal hairs; membrane dull stramineous hyaline; eyes large and flattened, directed a little outwardly and backwardly beyond the anterior margin of the pronotum.

Length 4 millim.

Hab. Calcutta.

Apparently allied to *G. maindroni*, Montand., colour of antennæ and pronotum and markings of corium different.

2803. **Geocoris hirsutus**, *Montand. Bull. Soc. Sci. Bucarest*, xv, 1906, p. 324 (1907).

Strongly hirsute; head ochraceous, the ocelli prominent; antennæ with the first and fourth joints ochraceous, second and third joints fuscous, apex of third joint distinctly paler; pronotum fuscous, the lateral margins and a strongly broken central longitudinal fascia ochraceous, the latter paler; scutellum fuscous with a central longitudinal ochraceous fascia on its apical half; corium ochraceous, the central margin paler, and with a large blackish spot near each inner angle; membrane hyaline; body beneath and legs ochraceous, lateral areas of sternum and abdomen and apex of the latter piceous; antennæ with the first joint short, smooth,

Fig. 10.—*Geocoris hirsutus.*

remaining joints hirsute, second longer than third, third and fourth subequal in length; head with the central lobe apically prominent; pronotum transversely impressed on each side at about one-third from anterior margin, distinctly punctate, excepting the margins; scutellum, excepting the pale fascia, distinctly punctate; corium and clavus with longitudinal series of punctures; legs strongly hirsute.

Length 4 millim.

Hab. Trichinopoly (*Biró*, *Mus. Hongrois*).

I am indebted to the kindness of Dr. Horváth for an opportunity of examining and figuring the type of this species.

2804. **Geocoris puri**, sp. n.

Head, pronotum, and scutellum black; apex of head pale dull ochraceous, the apical margins and a median line to the central lobe black; lateral margins to pronotum and apical area to scutellum dull pale ochraceous; antennæ piceous, extreme apices to second and third joints and the whole of the apical joint stramineous; body beneath dull black, lateral margins of sternum

and abdomen stramineous; legs black, apices of femora and the tibiæ and tarsi more or less ochraceous; corium stramineous with a large blackish discal spot widening to membranal division; membrane dull greyish, sometimes infuscate; antennæ robust, with short semi-erect hairs, second joint longest, third shortest, rostrum piceous, about reaching posterior coxæ; head with an oblique foveate depression on each side before the eyes; pronotum

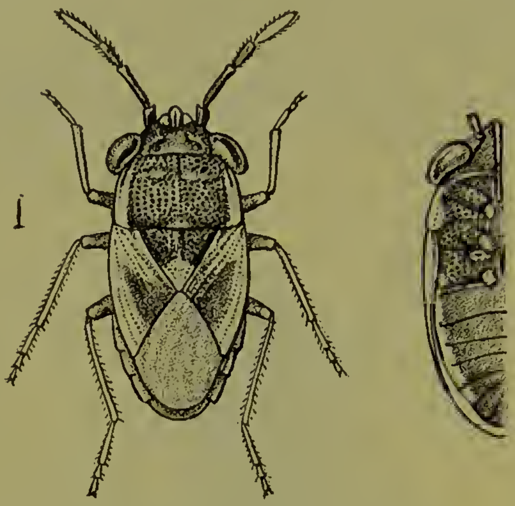

Fig. 11.—*Geocoris puri.*

coarsely punctate except on lateral margins, with a faint central longitudinal carination and two transverse cicatrices on anterior area; scutellum less strongly punctate, the apical area sparingly punctate and with a faint central paler carinate line; corium finely and sparsely punctate, the punctures more distinct and in longitudinal series on the claval area and on subcostal area of corium.

Var. Corium nearly wholly black, the basal angle and costal areas stramineous.

Length 3 millim.

Hab. Bengal; Orissa; Puri (*Annandale*).

Geocoris jucundus. (Vol. II, p. 31.)

Mr. E. E. Green has recently sent me two specimens of this species from Ceylon, one is typical, the other varietal.

Var. *a.* Basal and anterior margins as well as the lateral angular areas of the pronotum pale ochraceous.

A third specimen also received from Mr. Green appears to be only a blanched form, but its position, pending the examination of more material, is uncertain.

Add:—*Hab.* Ceylon; Colombo (*Green*).

"From sandy compound, amongst short wiry grass." (*E. E. Green in litt.*)

Genus GERMALUS.

Germalus, *Stål, Stett. ent. Zeit.* xxiii, p. 311, note (1862); *id. Hem. Afr.* ii, p. 142 (1865); *id. En. Hem.* iv, p. 133 (1874).

Type, *G. kinbergi*, Stål, from Mauritius.

Distribution. Madagascar, Mauritius, and the Oriental, Malayan and Australasian Regions.

This genus is to be separated from *Geocoris* by the ampliate, not narrowed apex of the clavus, the margins of which are parallel, and also by the strongly pedunculated eyes.

2805. Germalus greeni, sp. n.

Head ochraceous; ocelli darker; apices of the eyes bright carmine-red; antennæ and rostrum ochraceous, apex of the latter black; pronotum with the anterior area ochraceous, the posterior area creamy white with dark punctures; scutellum ochraceous; corium pale ochraceous, the claval area piceous, the costal area whitish hyaline with its apical angle margined with black; membrane hyaline reflecting the abdomen beneath; body beneath and legs ochraceous; antennæ with the first joint shortest and with an outer black line, second longest, about half as long again

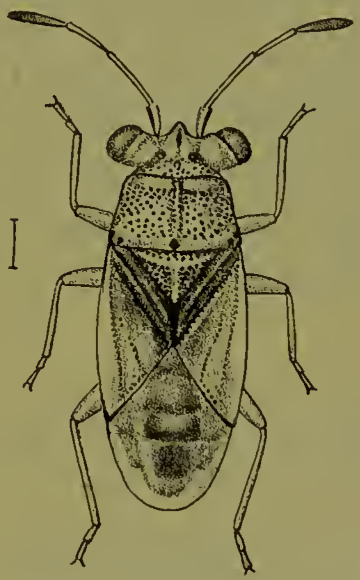

Fig. 12.—*Germalus greeni.*

as third or fourth which are subequal in length; vertex broad, subacutely produced in front where there is a short central black line; eyes strongly stylate, directed a little upwardly and forwardly; pronotum with two transverse impunctate narrow spaces before anterior margin which is somewhat sparsely darkly punctate, the disk coarsely darkly punctate, excepting the basal margin which is impunctate and contains a central and two lateral small black spots, a distinct central longitudinal carination not reaching posterior margin; scutellum with a curved transverse impunctate

ridge continued centrally to apex, the remaining area coarsely darkly punctate; clavus longitudinally punctate, the corium smooth; sternum excluding the segmental margins thickly finely punctate.

Length 4½ millim.

Hab. Ceylon; Peradeniya (*Green*).

Subfamily COLOBATHRISTINÆ. (Vol. II, p. 32.)

Malcida, *Stål, Hem. Afr.* ii, p. 121 (1865).
Malcinæ, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 41.
Colobathristinæ, *Horv. Ann. Mus. Hung.* ii, p. 117 (1904).

I do not propose altering my conception of this subfamily as the opinions of taxonomists still appear to be in an unsettled condition. Thus *Malcida* proposed by Stål (1865), evidently used for the reception of his genus *Malcus* (vol. ii, p. 32), and advocated by Horváth (*supra* p. 118, *note*), was subsequently discarded by Stål in his En. Hem. p. 170 (1874) where he places *Malcus* under "*Genera et species Lygæidarum incerti loci systematici.*" In placing *Malcus* in the Colobathristinæ, I am in agreement with Lethierry. My genus *Curupira* (1888), however, has been shown to be a synonym of *Colobathristes*, Burm., and I seem to have been clearly in error in placing it in the Coreidæ, and certainly wrong in including it with the Leptocorisaria. Here again, however, there is almost a parallel diversity of opinion, for Stål, who still remains our greatest authority, in his "Enumeration of the Lygæidæ" (1874), placed the Berytinæ as a subfamily of the Lygæidæ, though he had prevously (1865) located the Berytida as a distinct family between the Coreidæ and the Lygæidæ, this latter opinion now being almost universally followed by Rhynchotists, though Van Duzée follows Stål's earlier direction.

Genus **PHÆNACANTHA**.

Phænacantha, *Horv. Ann. Mus. Hung.* ii, p. 120 (1904).

Type, *P. biroi*, Horv., from New Guinea.

Distribution. Oriental and Malayan Regions; also recorded from the Fiji Islands.

"Head vertical, laterally not carinate, facial angle straight, gula horizontal; eyes shortly stylate; ocelli strongly approximate, at least four times more remote from eyes than from each other; antennæ longer than the body, fourth joint a little shorter than the third, rarely of equal length or slightly longer: rostrum reaching the intermediate coxæ or nearly so, rarely short and slightly passing the middle of the mesosternum, fourth joint shorter than the third; pronotum anteriorly not or slightly narrowed, the posterior lobe nearly twice as long as the anterior lobe (in brachypterous forms no more than half longer);

scutellum armed with a long, erect apical spine, hemelytra not or slightly passing the abdominal apex, corium without an anteapical areole; abdomen apically somewhat distinctly incrassated (♂), or slightly ampliate behind middle, afterwards distinctly narrowed near apex (♀), third ventral segment more than twice as long as second, third and fourth segments subconnate in the ♂, the three last segments slightly shorter than the third, rarely a little longer; anterior femora beneath not multidenticulate, only armed with an ante-apical spine, anterior tibiæ unarmed." (*Horváth.*)

2806. **Phænacantha sedula**, *Horv. Ann. Mus. Hung.* ii, p. 180 (1904).

"Dimorphic, ferruginous-testaceous; anterior lobe of pronotum, scutellum, gula and sternum glaucous black; head slightly broader than pronotum, above marked with two anteriorly diverging fuscous bands, ocelli four times more remote from eyes than from each other; second joint of antennæ half as long again as first and slightly shorter than third, fourth joint a little longer than the preceding joint; apex of rostrum black; pronotum anteriorly declivous, anterior lobe moderately convex, a little declivous and the vertex moderately raised, posterior lobe distinctly punctate; scutellum sparsely punctate, the apical spine very slightly longer than the posterior pronotal lobe, vertical or subvertical (80°), pale, apex black or darkly fuscous; hemelytra complete or incomplete, griseously hyaline, veins testaceous; sternum punctate, posterior lobe of prosternum and sometimes also the acetabula ferruginous-testaceous; orifices, posterior angle of the metasternum, connexivum, and lateral margins of the abdomen beneath whitish testaceous, the last with the base black; apices of tarsi black.

Length $7\frac{3}{5}$ to 8; breadth 1 millim.

Macropt. form. Pronotum one-third longer than its own breadth, anteriorly narrowed, anterior and posterior lobes separated by a deep impression, posterior lobe much more convex and at least twice as long as the anterior lobe; hemelytra slightly shorter than the abdomen; apical angle of the corium, the veins of the clavus and membrane slightly infuscate.

Brachypt. form. Pronotum one-fourth longer than broad, anteriorly not narrowed, lateral margins nearly parallel, anterior and posterior lobes placed in the same plane and separated by a shallow furrow; posterior lobe not convex and half as long as the anterior lobe; hemelytra abbreviated, scarcely extending to behind apex of metanotum; abdomen above often with two fuscous bands." (*Horváth.*)

Hab. Burma; Karennee (*Fea*). Penang, Singapore, Engano, Mentawei (*fide Horváth*).

I have not seen this species.

Phænacantha bicolor, *Dist.* (Curupira) i, p. 412, & p. 411. f. 242; *Horv.* (Phænacantha (Anorygma)), *Ann. Mus. Hung.* ii, p. 138 (1904).

Under the name of *Phænacantha solers*, Dr. Horváth has described* the form I figured (*supra*) as *P. bicolor*, Dist. This I take to be a varietal form of the species; Dr. Horváth considers it as specifically distinct. This difference in opinion, at least for the present and awaiting more material, must continue.

2807. **Phænacantha viridipennis,** *Horv.* (Phænacantha (Anorygma)), *Ann. Mus. Hung.* ii, p. 139 (1904).

"Flavous-testaceous; apical half of pronotum, scutellum, head beneath, and sternum wholly glaucous black; head scarcely broader than posterior lobe of pronotum, with two anteriorly diverging lines on the vertex and two small basal bands on the cephalic lobe, fuscescent; antennæ one-fifth longer than the body, first joint a little longer than second joint and one-fourth shorter than third, the two apical joints equally long; apex of rostrum black; pronotum nearly one-fourth longer than its own breadth, anteriorly convexly declivous and a little narrowed, the anterior and posterior lobes placed in the same plane and separated by a shallow impression, anterior lobe nearly impunctate, with the vertex a little higher anteriorly, posterior lobe three times as long as anterior lobe, densely punctate and, besides the black anterior margin, with a median black band posteriorly abbreviated; scutellum punctate, apical spine a little shorter than the posterior lobe of the pronotum, vertical, black, basal third flavous white; hemelytra a little shorter than the abdomen, virescent hyaline, the veins testaceous; sternum densely and distinctly punctate; abdomen ochraceous, base above and beneath black or blackish, lateral margins whitish testaceous, posterior margin of the third ventral segment straight." (*Horváth.*)

"Length ♀ 11; breadth $1\frac{1}{2}$ millim."

Hab. Tenasserim; Thagata (*Fea*). Sumatra (*fide Horváth*).

I have not seen this species.

Genus **MALCUS.** (Vol. II, p. 32.)

Malcus scutellatus. (Vol. II, p. 33.)

Malcus flavidipes, *Bredd.* (nec *Stål*), *Deutsch. ent. Zeitschr.* 1907 p. 41.

Breddin (*supra*) has stated that *M. scutellatus*, Dist. =*flavidipes*, Stål (vol. ii, p. 33). He was, however, clearly unfamiliar with the two species and has misunderstood that of Stål.

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* Ann. Mus. Hung. ii, p. 139 (1904).

Genus **NERTHUS**. (To follow *Artemidorus*, Vol. II, p. 33.)

Nerthus, *Dist. A. M. N. H.* (8) iii, p. 327 (1909).

Type, *N. dudgeoni*, Dist.

Distribution. At present only known from the Punjab.

Elongate; head broad, convexly narrowed in front of eyes; central lobe prominent and slightly produced; antennæ with the first joint shortest, distinctly shorter than the head, second joint a little longer than either third or fourth; rostrum just passing the posterior coxæ, first joint passing base of head, second and third subequal in length; ocelli near posterior margin, nearer to eyes than to each other; pronotum elongate, moderately laterally sinuate, transverse constriction distinct, anterior lobe convex, a little shorter than posterior lobe, which is deflected anteriorly, the posterior lateral angles rounded, their posterior margins slightly lobately produced; scutellum a little longer than broad, with a discal longitudinal carination; corium a little more than half the length of abdomen and concavely constricted at middle; membrane reaching apex of abdomen; legs moderately long, unarmed, pilose; femora moderately evenly thickened, posterior tarsi with the basal joint a little longer than the remaining joints together; abdomen beneath with a distinct, central, longitudinal, carinate line.

Allied to *Artemidorus*, Dist., but differing by the basal joint of antennæ being shorter than the head; the much longer rostrum and the relative lengths of joints of same, the shorter and evenly thickened posterior femora, not attenuated towards base and incrassate at apex as in *Artemidorus*.

2808. **Nerthus dudgeoni**, *Dist. A. M. N. H.* (8) iii, p. 328 (1909).

Head, antennæ, pronotum, scutellum, abdomen above, rostrum,

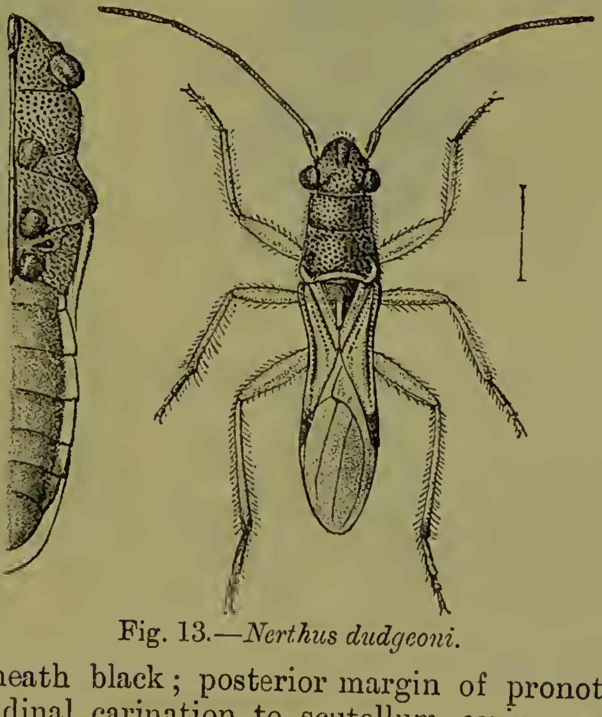

Fig. 13.—*Nerthus dudgeoni.*

and body beneath black; posterior margin of pronotum, central apical longitudinal carination to scutellum, corium, and elongate

(almost connected) spots to connexivum very pale ochraceous; base of first joint of antennæ and the legs reddish yellow; apical angle of corium and the tarsi black; bases of intermediate and posterior femora stramineous; head, pronotum, and sternum thickly coarsely punctate; clavus longitudinally punctate; corium with the subclaval margin and the costal margin longitudinally punctate; body beneath (especially the abdomen) finely greyishly pilose; other structural characters as in generic diagnosis.

Length 9 millim.

Hab. Punjab; Kangra Valley, 4500 feet (*Dudgeon*).

Subfamily HETEROGASTRINÆ. (Vol. II, p. 35.)

Chauliopinæ, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 40.

Genus CHAULIOPS. (Vol. II, p. 35.)

2809. **Chauliops lobatula**, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 41.
Chauliops fallax ? *Bredd.* (nec *Scott*), *tom. cit.* p. 40.

Allied to *C. fallax*, Scott, but differing in the following characters:—The pronotum anteriorly is less narrowed and also more gibbously rounded; first joint of antennæ a little shorter; corium

Fig. 14.—*Chauliops lobatula.*

on its apical half more darkly piceous or black, forming two dark longitudinal spots *; anterior margin of clavus darker; legs flavescent, femora (excluding bases) and bases of tibiæ black or castaneous; membrane piceous or black, with a distinct white

* In some specimens of *C. fallax* this is also visible, though in the typical specimen figured (vol. ii, fig. 24) these markings are practically absent.

spot at the basal angles; membrane not passing the abdominal apex.

Length $2\frac{1}{2}$ millim.

Hab. Ceylon; Peradeniya (*Green*), Nalanda (*fide Breddin*).

Breddin describes the corium as longer than in *fallax* and nearly as long as the membrane in its longest extension; this is incorrect.

Chauliops has recently been found in the Ethiopian Region. I have described a species from Calabar, and Bergroth informs me that he possesses a species from Pemba Island.

2810. **Chauliops nigrescens,** *Dist. A. M. N. H.* (8) iii, p. 328 (1909).

Head pale castaneous brown, with an obscure darker longitudinal fascia on each side between the bases of antennæ and the ocelli; antennæ pale ochraceous, the first and fourth joints brownish ochraceous; pronotum sordidly ochraceous, thickly piceously punctate, a black subanterior marginal fascia (interrupted at middle) and a pale central longitudinal line; scutellum pitchy-black; corium sordidly ochraceous, the clavus and apical area of corium pitchy-black; membrane sordidly greyish, with piceous suffusions; connexivum pale luteous, spotted with black; body beneath and legs dull black; coxæ, bases of femora, a broad central annulation to tibiæ, and the tarsi pale ochraceous; antennæ robust, second and third joints slender, second longest, fourth slightly longer than third; pronotum gibbously rounded, much as in *C. lobatula*, Bredd.; corium distinctly shorter than membrane, which very slightly extends beyond abdominal apex; abdomen beneath coarsely granulose.

Length 3 millim.

Hab. N.W. India; Kumaon, Bhim Tal (*Ind. Mus. & Coll. Dist.*).

Genus **EPIBOMIUS.**

(After *Sadoletus*, Vol. II, p. 37.)

Epibomius, *Dist. A. M. N. H.* (8) iii, p. 328 (1909).

Type, *E. pusa*, Dist.

Distribution. Bengal.

Subelongate; head about as long as breadth between eyes, somewhat abruptly pointed in front, the lateral margins between base of antennæ and apex convexly sinuate, ocelli a little in front of basal margin and on each side near eyes; antennæ moderately robust, pilose, the third and fourth joints prominently pilose; rostrum reaching the intermediate coxæ; pronotum about as long as broad at anterior margin, transversely impressed near middle, the anterior margin very slightly sinuate, lateral margins almost straightly oblique, posterior margin truncate, centrally with a faint

longitudinal carina; corium considerably longer than membrane, which scarcely passes the abdominal apex, and with the basal cells distinct; femora moderately thickened.

Near *Sadoletus*, Dist.

2811. **Epibomius pusa,** *Dist. A. M. N. H.* (8) iii, p. 329 (1909).

Head black; antennæ piceous, greyishly pilose; pronotum pale castaneous red, the anterior and posterior areas more or less black; corium black, very finely greyishly pilose, the basal and apical angles testaceous; head beneath black; sternum pale castaneous

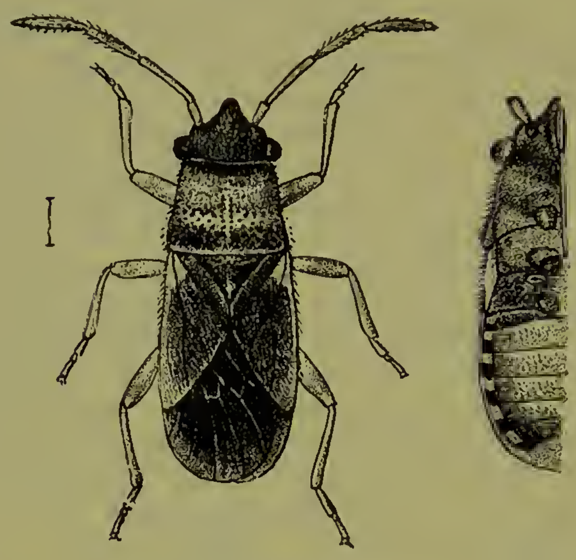

Fig. 15.—*Epibomius pusa.*

red, with its disk black; abdomen beneath and legs sordidly ochraceous, the former with its base and apex black; connexival border beneath pale luteous, with black spots; head thickly obscurely punctate; antennæ with the second joint longest, third and fourth strongly pilose, fourth joint slightly longer than third; pronotum sparingly very coarsely punctate, its lateral margins prominently pilose; corium obscurely punctate and more distinctly pilose; sternum sparingly coarsely punctate.

Length 3½ to 4 millim.

Hab. Bengal; Pusa (*Lefroy*).

Genus **MESCHIA**, nov.

Type, *M. pugnax*, Dist.

Distribution. Bengal.

Head much broader than long, the anterior margin strongly sinuate and angulate on each side before eyes, the central lobe prominent and somewhat strongly produced; ocelli on extreme

basal margin, nearer eyes than to each other ; rostrum long, considerably passing middle of abdomen, first joint reaching base of head, second joint longest ; antennæ robust, first joint short not passing apex of head, second longest, third and fourth subequal in length ; pronotum very large, much broader than long, obliquely directed from base to apex, the lateral margins a little sinuate the posterior lateral angles subprominent, the anterior margin prominent and almost appearing as a very slight collar, before the anterior margin it is transversely impressed and is slightly transversely ridged at basal margin ; scutellum large, a little broader than long, with a very slight longitudinal carinate line ; connexivum exposed beyond middle of corium ; membrane slightly passing abdominal apex and with a distinct basal cell and five longitudinal veins ; legs of moderate length, femora thickened.

By the character of the basal cell to the membrane, I place this genus in the Heterogastrinæ.

2812. **Meschia pugnax**, sp. n.

Head and antennæ brownish ochraceous, the latter with the apex of the second joint and the third and fourth joints (excluding bases and apices) more or less fuscous ; pronotum ochraceous, the anterior area reddish ochraceous, with two central longitudinal fasciæ which are black on anterior area and brownish on posterior area ; scutellum ochraceous ; corium pale ochraceous with scattered black speckles, the apical angle also black ; membrane hyaline ;

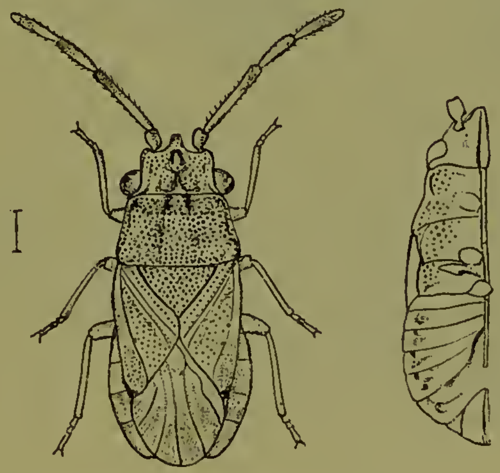

Fig. 16.—*Meschia pugna*

abdomen above pale reddish ; the connexivum ochraceous ; body beneath and legs ochraceous ; an oblique sublateral line on head and prosternum and a broken sublateral line to abdomen pale sanguineous ; head moderately punctate, the central disk a little darker ; pronotum coarsely punctate with a subanterior transverse slightly curved ridge ; scutellum coarsely punctate with an indistinct central pale longitudinal line ; sternum somewhat thickly

punctate on lateral areas; femora more or less blackly punctate; other structural characters as in generic diagnosis.

Length 4 millim.

Hab. Calcutta.

2813. **Meschia quadrimaculata**, sp. n.

Body above and beneath brownish ochraceous, beneath sometimes pale ochraceous; pronotum with four black spots on basal margin; corium in some lights much paler in hue; membrane hyaline, reflecting the dark abdomen beneath; legs pale ochraceous, femora apically spotted with black (the anterior and intermediate slightly, the posterior more strongly); pronotum coarsely punctate and rugulose, in front of the anterior constriction moderately, transversely tuberculous, and with a faint

Fig. 17.—*Meschia quadrimaculata.*

longitudinal pale central line; scutellum thickly punctate with a pale central longitudinal line broadened at apex; clavus longitudinally punctate, corium faintly punctate, more prominently and longitudinally punctate near claval and costal margins; antennæ mutilated in typical specimen.

Length 4 millim.

Hab. East Bengal.

Genus SADOLETUS. (Vol. II, p. 37.)

2814. **Sadoletus pallescens**, *Dist. A. M. N. H.* (8) iii, p. 329 (1909).

Head, pronotum, and scutellum dark brownish ochraceous; eyes and two large oblique spots on posterior lobe of pronotum black; corium pale ochraceous; membrane pale hyaline; antennæ, rostrum, body beneath, and legs pale ochraceous; meso- and metasterna dark brownish ochraceous; posterior lateral angles of the latter

pale ochraceous; antennæ with the extreme apices of the second and third joints and the apical joint (excluding base) more or less piceous; tibiæ biannulated with pale brownish, apices of tarsi piceous, posterior femora with a fuscous spot on upper surface a little beyond middle; antennæ with the second joint slightly longer than the third, fourth joint slightly or scarcely longer than the second; posterior lobe of pronotum somewhat coarsely punctate; scutellum finely obscurely punctate on basal, much more strongly punctate on apical area; clavus longitudinally punctate, corium linearly and more sparingly punctate.

Length 5 millim.

Hab. Calcutta.

Differs from *S. validus*, Dist., by the differently coloured head and pronotum and the much less or scarcely pilose character of the same.

Genus **DINOMACHUS**. (Vol. II, p. 37.)

2815. **Dinomachus rhacinus**, *Dist. Ann. Soc. Ent. Belg.* l, p. 410 (1906).

Ochraceous, thickly finely darkly punctate; pronotum with the extreme lateral margins piceous, a broken macular black basal fascia, and with a central pale line to posterior lobe; scutellum piceous, with a central pale line on apical area; corium with two small spots on disk, a transverse spot before apex, and the apical angle black; membrane bronzy; connexivum spotted with piceous; body beneath piceous, disk of abdomen and legs ochraceous; tibiæ, tarsi, and apices of femora annulated with castaneous; rostrum reaching the intermediate coxæ, basal joint scarcely passing base of head; antennæ pale castaneous, base and subapical annulation to first joint, subbasal annulation and apex to second joint, and apex of third joint ochraceous, second joint longest; head broad, central lobe a little prominent at apex, thickly finely pilose, obscurely thickly punctate; pronotum with the anterior lobe moderately globose, its lateral margins convex, distinctly narrower than posterior lobe; scutellum as long as broad, largely irregularly excavate at each lateral angle, and obliquely depressed on each side at apical area, thickly finely punctate; corium more sparsely and finely punctate, the punctures arranged longitudinally.

Length 7 to 8½ millim.

Hab. Bengal; Pusa (*Lefroy*). N.W. India; Roorkee (*Brunetti, Ind. Mus.*). Ceylon; Wellawaya (*E. E. Green*).

This and the following species *D. nitidiusculus* are distinct from *D. sikhimensis* (vol. ii, p. 38) by the narrower anterior lobe of the pronotum, thus agreeing more with the typical South African species *D. marshalli*, Dist.

2816. **Dinomachus nitidiusculus,** *Dist. Ann. Soc. Ent. Belg.* l, p. 411 (1906).

Ochraceous, thickly finely punctate; head distinctly finely pilose; pronotum with a basal marginal series of small castaneous spots; scutellum with the basal area piceous, traversed by a longitudinal pale line; corium with two small spots on disk, and some irregular transverse spots on apical area, black; membrane ochraceous; head beneath and sternum piceous; coxæ, trochanters, legs, and abdomen beneath ochraceous; lateral margins of sternum linearly black; tibiæ, tarsi, and apices of femora annulated with castaneous; anterior femora strongly spotted with castaneous; abdomen spotted with piceous on each lateral area; antennæ castaneous, basal joint ochraceous speckled with castaneous, subbasal annulation and apex to second joint and apex of third joint ochraceous, second joint longest; rostrum slightly passing the intermediate coxæ, basal joint scarcely passing base of head; pronotum with the anterior lobe moderately globose, distinctly narrower than the posterior lobe which is somewhat coarsely punctate; scutellum irregularly excavate on each side both at base and apical area.

Length 7 millim.

Hab. Ceylon; Peradeniya (*Green*).

2817. **Dinomachus indicus,** *Dist. A. M. N. H.* (8) iii, p. 491 (1909).

Head greyish brown, pilose, with some darker spots near base; pronotum brownish ochraceous, darkly punctate, transversely

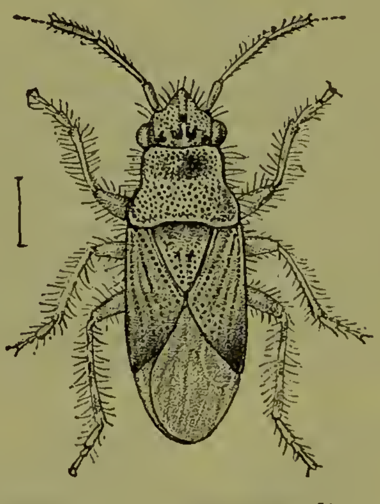

Fig. 18.—*Dinomachus indicus.*

impressed before middle, the anterior area or lobe discally dark castaneous, the margins narrowly ochraceous; scutellum brownish ochraceous, darkly punctate, with a central longitudinal line (not

reaching base) and the apex pale ochraceous; corium pale dull ochraceous, longitudinally punctate, the apical angles castaneous; membrane subhyaline, the veins a little darker; body beneath thickly greyishly pilose (imperfectly seen in carded typical specimen); legs brownish ochraceous, posterior tibiæ with three broad dark anulations; antennæ greyish brown, first joint slightly passing apex of head, second joint a little longer than third (fourth mutilated in typical specimen); pronotum with the lateral margins strongly sinuate, the posterior margin concavely sinuate before scutellum, the posterior area or lobe much more strongly punctate than the anterior area, the pale narrow margins impunctate; legs somewhat longly pilose; rostrum imperfectly seen in carded typical specimen.

Length 6½ millim.

Hab. India (*sic*) (*Vienna Museum*).

Genus **ESMUN.**

Esmun, *Dist. A. M. N. H.* (8) iii, p. 330 (1909).

Type, *E. typicus*, Dist.

Distribution. Bombay.

Body oblong; head about as long as breadth between eyes, central lobe prominent and moderately projecting; ocelli near base a little nearer to eyes than to each other; rostrum reaching or just passing the anterior coxæ, first joint not reaching base of head; antennæ moderately robust, first joint scarcely reaching apex of head, fourth joint incrassated; pronotum broader than long, before middle roundly narrowed to eyes, obsoletely transversely depressed near middle, posterior margin moderately concave, anterior margin nearly straight; scutellum broad and short; hemelytra shorter and narrower than the abdomen; corium shorter than membrane at its greater central length, its apical margin sinuate, membrane with distinct basal cells and scarcely passing the base of the last abdominal segment; femora moderately incrassate, posterior tarsi with the basal joint shorter than the second and third joints together.

Near *Dinomachus*, Dist.

2818. **Esmun typicus**, *Dist. A. M. N. H.* (8) iii, p. 330 (1909).

Head, antennæ, rostrum, scutellum, abdomen above, and body beneath and legs black; base of fourth joint of antennæ rusty brown; eyes and apices of the tibiæ castaneous brown; tarsi pale ochraceous; corium pale stramineous, base of clavus, two very small spots at claval apex, and the apical margins of corium (broadly and irregularly) black; membrane hyaline, centrally slightly tinged with fuscous brown; antennæ with the third

joint shorter than second oi fourth, fourth longer than second; head granulose and punctate; pronotum coarsely punctate, two subcallosities on anterior area less punctate, the central area

Fig. 19.—*Esmun typicus.*

somewhat broadly transversely depressed; scutellum opaque; abdomen above very finely greyishly pilose.

Length $3\frac{1}{2}$ millim.

Hab. Bombay (*Dixon*).

Genus **EUHEMERUS.**

Euhemerus, *Dist. A. M. N. H.* (8) iii, p. 331 (1909).

Type, *E. latus*, Dist.

Distribution. At present only recorded from Bombay.

Broad, subovate; head nearly as long as breadth between eyes; antennæ moderately robust, first joint not reaching apex of head; ocelli situate near eyes; rostrum almost reaching the intermediate coxæ, first joint almost reaching base of head; pronotum much broader than long, the anterior angles rounded, posterior margin a little concave, anterior margin slightly concave for the reception of head, near middle centrally transversely impressed; scutellum very short and broad; hemelytra a little shorter and considerably narrower than the abdomen; corium shorter than central length of membrane, its apical margin irregularly concave; membrane with distinct basal cells and not quite reaching the abdominal apex; femora moderately thickened, first joint of posterior tarsi not quite as long as the second and third joints together.

Allied to the preceding genus, *Esmun*, Dist.

2819. **Euhemerus latus**, *Dist. A. M. M. H.* (8) iii, p. 331 (1909).

Head, pronotum, scutellum, abdomen above, and body beneath black; antennæ, lateral margins of connexivum, rostrum, and legs castaneous brown, apices of the femora, intermediate

and posterior tibiæ, and the tarsi ochraceous; corium greyish white, margins of clavus, two spots at claval apex, and the

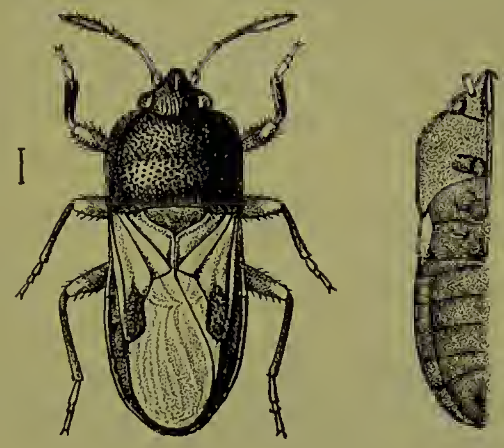

Fig. 20.—*Euhemerus latus.*

longitudinal veins to corium brownish, apical angular areas black; membrane hyaline; antennæ with the second joint longer than the third but shorter than the fourth joint; head and pronotum thickly rather coarsely punctate; scutellum opaque; connexivum and abdomen beneath thickly, shortly, greyishly pilose.

Length $3\frac{1}{2}$ millim.

Hab. Bombay (*Dixon*).

Subfamily PACHYGRONTHINÆ. (Vol. II, p. 39.)

PHLEGYAS BURMANUS. (Vol. II, p. 40.)

Teracrius burmanus *var.* singalensis, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 220.

"Head, pronotum, pleura, scutellum, and upper sides of all the femora pale yellowish like the corium; tip of clypeus, three spots on the cicatrisant region, often running together into a transverse band, five more or less obsolete longitudinal stripes diverging behind on the hinder half of pronotum, as well as three basal spots to scutellum, pitchy-brown or pitchy-black." (*Breddin.*)

Breddin states that his proposed variety is known only in the ♀ and that intermediate links between the forms occur; I therefore cannot regard it as anything but a simple synonym. It enables us, however, to add to the Burmese habitat originally given.

Add:—*Hab.* Ceylon; Weligama, Putalam, Anuradhapura (*fide Breddin*).

Breddin places the species in the genus *Teracrius*, Stål, an allied genus to *Phlegyas* founded on a South African species which I have not seen. This may be correct, but, at present, I leave the species as originally located.

Subfamily OXYCARENINÆ. (Vol. II, p. 42.)

2820. **Oxycarenus musculus**, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 219.

♂ ♀. "Differs from *O. lugubris*, Motsch., by the following characters. Stature very small, (likewise in ♀); the white costal margin characteristic of *O. lugubris* is in this species broadly interrupted behind the middle by the black transverse band running to the costa; corium, except the white basal third, with a white transverse band just before the black hind angle; membrane very narrowly bordered with white, the inner angle, as well as a narrow stripe along the membranal division white; middle and hind tibiæ (except base and apex) and the odoriferous aperture, as well as the hind border of the metapleura, ivory-white. Several completely corresponding specimens." (*Breddin.*)

"Length $2\frac{4}{5}$–3 millim."

Hab. Ceylon; Anuradhapura (*fide Breddin*).

I have not seen this species.*

Genus MARUTHAS, nov.

Type, *M. saniosus*, Dist.

Distribution. At present only known from Ceylon.

Head a little longer than broad, including eyes, attenuated and obtusely angulate anteriorly; eyes small and contiguous to the anterior angles of the pronotum; antennæ with the first joint not reaching apex of head, second longest, third and fourth subequal in length; rostrum long, passing the middle of abdomen, first joint about reaching base of head, second just passing the anterior coxæ; pronotum longer than broad, transversely impressed near middle, before which it is moderately convex, the posterior area or lobe longitudinally impressed and obliquely directed forwardly,

* Bergroth (Ann. Soc. Ent. Belg. xlix, p. 381 (1905)) states that *O. lætus*, Kirby (vol. ii, p. 43), is identical with the Palæarctic and Ethiopian *O. hyalinipennis*, Costa. This opinion is ignored by Breddin (Deutsch. ent. Zeitschr. 1907, p. 218) who has followed my method in keeping Kirby's species as distinct.

the lateral margins oblique and slightly sinuate, the basal margin straight, the anterior margin moderately concave; scutellum subtriangular, much broader at base than long; membrane not quite reaching the abdominal apex; femora robust, anterior femora somewhat strongly spined beneath.

Allied to *Oxycarenus*, from which it differs by the length of the rostrum, the spinous anterior femora, the membrane not reaching abdominal apex, &c.

2821. **Maruthas saniosus**, sp. n.

Head, pronotum, and scutellum sanguineous; antennæ with the basal joint sanguineous, second and third joints pale stramineous, fourth joint reddish with the base stramineous; corium dull reddish, the basal angle paler and more ochraceous, the basal half of costal

Fig. 21.—*Maruthas saniosus.*

margin hyaline; membrane dark greyish; body beneath and femora sanguineous; rostrum, tibiæ, tarsi, and coxal spots stramineous; body shortly, somewhat strongly pilose; lateral margins of head and pronotum more longly pilose; head, excluding central lobe, somewhat granulose; pronotum with the anterior lobe shortly pilose and finely granulose, posterior lobe coarsely punctate; scutellum with some small scattered granules; corium coarsely, shortly, suberectly pilose; sternum obscurely, finely punctate; abdomen beneath suberectly pilose, apical lateral and apical margins more or less blackish.

Length 5 millim.

Hab. Ceylon; Peradeniya (*Green*).

Associated with *Oxycarenus lætus* in cotton bolls (*E. E. Green*).

Subfamily APHANINÆ. (Vol. II, p. 45.)

Genus MAHISA.

Mahisa, *Dist. Ann. Soc. Ent. Belg.* l, p. 412 (1906).

Type, *M. ceromatica*, Dist.

Distribution. Ceylon.

Head about as long as expanse of eyes, anteriorly subacute, obscurely transversely depressed between anterior margins of eyes, moderately globose between and behind eyes where there is a narrow central longitudinal striation, narrowed at base into a very short neck; eyes situate at about centre of head, and ocelli placed just behind them at sides of head; antennæ with the first joint moderately thickened and distinctly passing apex of head, about half as long as second, and a little shorter than third; rostrum slightly passing the intermediate coxæ, first joint reaching eyes, second almost reaching base of head, third very long; pronotum much shorter than broad at base, the lateral margins concavely sinuate, anterior margin broadly moderately elevated, depressed on disk; scutellum short, with an oblique ridge starting from each basal angle and uniting with a central longitudinal ridge on apical area; membrane well developed, as long as clavus; femora moderately thickened, anterior femora spined beneath.

2822. **Mahisa ceromatica**, *Dist. Ann. Soc. Ent. Belg.* l, p. 413 (1906).

Piceous black; posterior area of pronotum, margins and apex

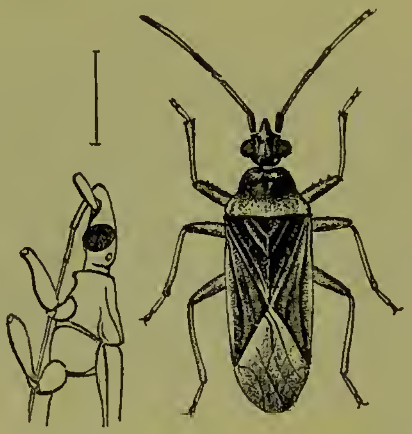

Fig. 22.—*Mahisa ceromatica.*

of clavus, lateral margins of corium, rostrum, basal margin of prosternum, lateral margins of meso- and metasterna, coxæ, and

abdomen beneath, pale testaceous; membrane pitchy-brown with the basal margins broadly ochraceous; femora piceous, their bases, and the tibiæ and tarsi ochraceous; antennæ with the first and third joints piceous, second brown with its apex piceous, fourth stramineous with its apical half brown; pronotum, except the anterior area, and the scutellum sparsely finely punctate, clavus and corium more densely punctate, but the last with the lateral margins almost impunctate.

Var. Corium dull ochraceous, with a large subtriangular piceous patch on apical area.

Length 6 to 8 millim.

Hab. Ceylon; Wellawaya (*Green*).

Genus **NAVARRUS**.

Navarrus, *Dist. A.M.N.H.* (7) viii, p. 476 (1901).

Type, *N. phæophilus*, Walk.

Distribution. Recorded from Ceylon to Celebes.

Body ovate, depressed; head porrect, about half as long as the pronotum, inserted to the posterior margins of the eyes; ocelli at base, very near the eyes; rostrum about reaching or very slightly passing the anterior coxæ, first joint short, reaching or

Fig. 23.—*Navarrus phæophilus.*

slightly passing eyes; antennæ with the first joint stoutest, slightly passing apex of head, third joint shortest, second and fourth subequal in length, fourth distinctly hirsute; pronotum narrowing from base to head, transversely impressed near middle, the lateral margins sinuate with their edges distinctly produced, posterior margin truncate, anterior margin slightly concave;

scutellum triangular, foveately depressed near base; corium with the lateral margins a little rounded; membrane almost reaching the abdominal apex; legs moderately short.

2823. **Navarrus phæophilus**, *Walk.* (Rhyparochromus) *Cat. Het.* v, p. 106 (1872); *Dist.* (Navarrus) *A. M. N. H.* (7) viii, p. 476 (1901).

Piceous; lateral margins and humeral angles of pronotum, lateral margins of corium (not extending to apex), and a large curved spot at base of membrane, ochraceous; body beneath piceous; antennæ, rostrum, and legs ochraceous; basal joint of antennæ and apices of second and third joints black; sternal margins and femora more or less castaneous; head and anterior margin of pronotum thickly, somewhat coarsely punctate, posterior pronotal lobe more wrinkled and a little more sparsely and finely punctate; scutellum and corium thickly punctate; structural characters as in generic diagnosis.

Length $4\frac{1}{2}$ millim.

Hab. Ceylon; Peradeniya (*Green*).—Celebes (*Brit. Mus.*).

Division *MYODOCHARIA*. (Vol. II, p. 47.)

Genus **NOTOCHILASTER**.

(To follow *Udalricus*, Vol. II, p. 49.)

Notochilaster, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 211.

Type, *N. teres*, Bredd.

Distribution. The genus is founded on a Ceylonese species.

"Body without lustre, upperside bare, underside quite shortly dusky hairy; head as in *Notochilus*, triangularly produced with a narrow far projecting clypeus, shortly and strongly narrowed behind the eyes which are hardly of medium size, the part of the head between eyes and antennal furrows parallel-sided, rather shorter than the longitudinal diameter of the eye; the small ocelli about two and half times as wide apart as from eye; throat horizontal; rostrum passing the hind coxæ, first joint reaching base of head; pronotum narrowly trapezoidal, a little shorter than its width between the shoulders, strongly constricted just behind the middle, the hinder area a little elevated backward, distinctly punctured, the slightly spherically convex front area is only extremely finely punctured and has a distinct neck-ring in front; the angularly constricted lateral margin of the pronotum has, especially in its front half, a very indistinct marginal keel; hind margins straightly truncated; scutellum somewhat equilateral, with a smooth central keel behind the middle; clavus regularly punctate

in three rows; the corium exhibits, besides the typical two rows of punctures along the claval suture, only a very regular row of strong punctures close to the costa, then bending inward and extending far beyond the middle of the corium, otherwise only a few obsolete punctures near the membranal division; membrane basally with an obliquely transverse furrow, as if formed by a pinch; veins free; pectus distinctly punctured; the abdominal double segment (4+5) separated by an incision on the sides which is very strongly curved round in front, with a straight submarginal (with the outer margin slightly diverging) strongly impressed longitudinal line; fifth segment with two small glandular spots far removed from the hind margin, distinguished by a bristle; female genital apparatus rather small: front femora not thickened, unarmed, front tibiæ straight, first joint of hind tarsi about one and a half times as long as the other two joints together; antennæ of ordinary length; first joint with half its length passing head, second longest, two terminal joints equally long." (*Breddin.*)

Breddin states that this proposed genus extremely resembles in structure of head and especially pronotum, as well as in its facies, the genus *Udalricus* * (vol. ii, p. 49), but is distinguished by the structure of the scutellum. It is therefore possibly of subgeneric rank to *Udalricus*, as Breddin was a well-known user of the most minute characters for the most profound divisions.

2824. **Notochilaster teres**, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 212.

"♀. Dull deep black; tibiæ, tarsi, and rostrum pale rusty yellow, fourth antennal joint whitish; terminal border of clavus, claval suture, a subcostal narrow elliptical longitudinal spot behind the middle of corium, and about basal third of corium, fine pale yellow; rows of punctures in the latter part black; membrane smoky-black, a spot in inner angle, a broad stripe along the base, as well as two longitudinal lines on the middle (veins) whitish yellow." (*Breddin.*)

"Length $4\frac{1}{2}$ millim."

Hab. Ceylon; Nalanda (*fide Breddin*).

Genus **PAROMIUS**. (Vol. II, p. 50.)

PAROMIUS SEYCHELLESUS. (Vol. II, p. 50.)

Add:—*Hab.* Bengal; Pusa (*Lefroy*); Calcutta (*Ind. Mus.*). Australia; Queensland—Peak Downs (*Coll. Dist.*). E. Africa; Transvaal—Waterval-onder (*Ross, Coll. Dist.*).

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* The type of *Udalricus* was from Burma, while Breddin describes this genus from Ceylon.

PAROMIUS EXIGUUS. (Vol. II, p. 51.)

Paromius robustior, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 204.

This species varies in coloration as do others in *Paromius* and *Pamera*. In typical forms the body beneath is uniformly piceous, in others the ventral surface of the abdomen is largely brownish-ochraceous, the same remark applies to the colour of the femora.

Add :—*Hab.* Calcutta and Manipur (*Ind. Mus.*); Bengal; Pusa (*Lefroy*).

Genus **PAMERA**. (Vol. II, p. 51.)

PAMERA VINCTA. (Vol. II, p. 52.)

Orthœa periplanios, *Kirk. Canad. Entomol.* xxxix, p. 246 (1907).
Orthœa pacifica, *Kirk.* (nec *Stål*) *Proc. Linn. Soc. N. S. Wales*, 1907, p. 776.

Kirkaldy (Ann. Soc. Ent. Belg. 1907, p. 121) disputed the correctness of my wide distribution for this species. He was, however, unfamiliar with the species, for Bergroth (to whom he sent examples of his identifications) informs me by letter that both *periplanios*, Kirk., and that erroneously referred to by him as *pacifica*, Stål, are undoubtedly synonyms of *vincta*, Say. We may therefore now add the additional localities of Fiji, Hawaii, and Queensland. (Kirkaldy subsequently admitted the above synonymy: Proc. Linn. Soc. N. S. Wales, xxxiii, p. 357 (1908)).

PAMERA NIETNERI. (Vol. II, p. 53.)

Var. Apical joint of antennæ with about the basal half luteous.

Add :—*Hab.* Calcutta. Orissa; Gopkuda Island, Lake Chilka. Tenasserim; base of Dawna Hills (*Ind. Mus.*).

2825. **Pamera emersoni**, *Dist. A. M. N. H.* (8) iii, p. 491 (1909).

Head and anterior lobe of pronotum black, posterior pronotal lobe more purplish-black, with an ochraceous submarginal line near each lateral angle; scutellum black; corium ochraceous with dark punctures, inner margin and apex of clavus, inner marginal area and apical margin of corium black; membrane fuscous-brown, with curved longitudinal whitish lines; body beneath, legs, and rostrum black; second joint of rostrum, apices of anterior femora, apical halves of intermediate femora, and anterior and intermediate tibiæ and tarsi, ochraceous, the latter infuscate at apices (posterior legs mutilated in typical specimen); antennæ black, the apical joint with its basal half stramineous, first joint slightly passing apex of head, second and fourth

joints subequal in length, each a little longer than third; pronotal collar broad, anterior pronotal lobe about one and a half times as long as posterior lobe and very distinctly narrower; corium with the dark punctures in longitudinal series; anterior

Fig. 24.—*Pamera emersoni.*

femora finely but prominently spined beneath; rostrum reaching the anterior coxæ.

Length 5 millim.

Hab. Ceylon (*Vienna Museum*).

In this enumeration to be placed after *P. pallicornis* (vol. ii, p. 52).

2826. **Pamera mimula,** *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 206.

"Allied to *P. malaya*, Stål. Brachypterous; black almost lustreless; head large, and with the scarcely medium-sized eyes broader than the pronotum at the shoulders, behind the eyes suddenly and strongly narrowed; upperside with very fine and close wrinkling, producing a silky sheen, underside of head distinctly convex longitudinally; rostrum slightly passing middle of mesosternum, first joint short, scarcely reaching posterior margins of eyes, second, third, and fourth joints subequal in length; pronotum (proper) spherically arched above (projecting over the process when seen from the side), not or only imperceptibly narrower than the process in the shoulder-region, and (including the collar) about twice as long; the (transverse) rather broad neck is divided off by a sunken line of punctures, and finely but rather distinctly transversely punctate; the diffusely punctured 'processus pronoti' rises slightly behind and has rounded shoulder angles not laterally passing the tegmina; scutellum punctate, with a V-shaped impunctate elevation on the disk, extreme tip, like

two roundish suffused spots on the hind margin of the 'processus pronoti,' dull rusty yellow; tegmina white, shortened, with the tip of their obliquely rounded black membrane almost reaching the fifth abdominal segment, costal margin before middle flatly bent; clavus strongly punctate, the punctures mostly arranged in three series; corium along claval suture with two rows of stronger punctures, otherwise smooth and impunctate, with the exception of a longitudinal row which, closely following the costa, gradually bends away inwardly and just behind middle of corium (within the black transverse band) dissolves into a small group of punctures; the clavus, as well as an approximating stripe on corium, a transverse band running from inner angle to costa, which is broad and irregular and interrupted by some pale spots, as well as broad terminal border of corium which is strongly narrowed inwardly, deep black; the sharply pointed angles of the metasternum, a lateral stripe on the abdomen before middle, and basal third of middle and hind femora, whitish; the terminal border of front and middle femora, middle tibiæ, tarsi, as well as antennæ, dull rusty yellow; apex of third joint of antennæ brownish, first joint about one and one-third times as long as eye, second a little longer than third, fourth longest; anterior coxæ armed with a fine spine directed backward." (*Breddin.*)

"Length 5 millim."

Hab. Ceylon; Mihintale (*fide Breddin*), Heneratgoda (*Green*).

If I have rightly understood this species, it is to be recognised by the large anterior lobe of the pronotum.

2827. **Pamera sinhalana**, *Kirk.* (Orthœa) *Ann. Soc. Ent. Belg.* 1908, p. 11.

"♂. Apparently close to *punctulata*, Motsch., but the head, pronotum and scutellum are unicolorous, brownish piceous, the anterior lobe of the pronotum having a lateral obscure brownish yellow spot or blotch, and the posterior margin of the pronotum having a feeble speck on each side; antennæ and labium [rostrum] sordid ochreous, fourth segment [joint] of the former fuscous; tegmina whitish, very closely punctured with dark brown, except extero-laterally; apical angle dark brown; membrane smoky, veins &c. whitish; legs yellowish testaceous, femora annulated broadly with blackish; underside blackish; rostrum reaching midway between fore and middle coxæ, first segment not reaching to the base of the head; fore femora somewhat incrassate, with two elongate spines beneath; fore tibiæ curved, with a long curved spine near the apex." (*Kirkaldy.*)

"Length $5\frac{3}{4}$ millim."

Hab. Ceylon; Galle (*fide Kirkaldy*).

This description provides an enigma. The general description seems to represent *P. punctulata*, Motsch. (vol. ii, p. 54), but the character given of the fore tibiæ "curved, with a long curved spine near the apex" seems to remove the species from the genus *Pamera* and locate it with or near *Fontejanus*, Bredd.

Genus **PAMERANA.**

(To follow *Pamera*, Vol. II, p. 51.)

Pamerana, *Dist. A. M. N. H.* (8) iii, p. 331 (1909).

Type, *P. cuneata*, Dist.

Distribution. Bengal.

Head shorter than pronotum, but longer than the anterior lobe, ocelli near base and nearer to eyes than to each other, antenniferous tubercles prominent and outwardly produced in a short spinous tubercle, the apex of the central lobe distinctly produced; antennæ with the first joint shorter than head, second joint slightly longest, third and fourth subequal in length; rostrum reaching the intermediate coxæ, first joint not reaching base of head; pronotum with a narrow anterior collar, the anterior lobe subglobose and about as long as posterior lobe; scutellum about as long as broad; clavus and costal area of pronotum coarsely thickly punctate, the corium inwardly more finely punctate; membrane slightly passing the abdominal apex; anterior femora thickened, distinctly spined beneath, anterior tibiæ a little dilated at apex, all the tibiæ about as long as the femora, posterior tarsi with the basal joint much longer than the remaining joints together.

The spinously produced antenniferous tubercles are a prominent character in this genus, which is allied to *Pamera*.

2828. **Pamerana cuneata**, *Dist. A. M. N. H.* (8) iii, p. 332 (1909).

Head, pronotum, scutellum, clavus, and corium dull black,

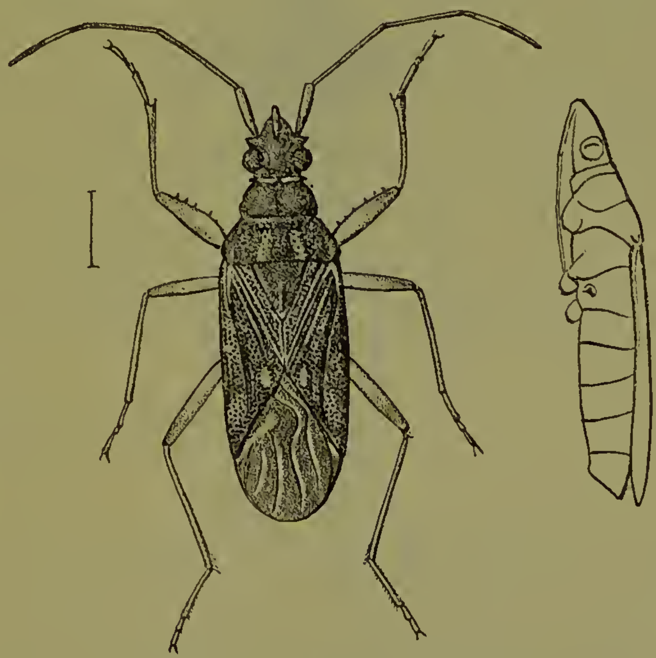

Fig. 25.—*Pamerana cuneata.*

head more shining black; anterior pronotal collar (interrupted

at middle), two central longitudinal spots on posterior pronotal lobe, margins of clavus, subclaval veins, and a spot near inner posterior angle of corium pale castaneous brown; membrane fuscous brown, with the veins dull ochraceous; antennæ black, apical joint with a broad pale ochraceous annulation; body beneath black, rostrum and legs pale ochraceous; femora, tibiæ, and tarsi slightly piceous towards apices; pronotum thickly finely punctate; scutellum sparingly punctate, more distinctly so on lateral margins. Other structural characters as in generic diagnosis.

Length 7 millim.

Hab. Calcutta.

Genus EUCOSMETUS. (Vol. II, p. 55.)

2829. **Eucosmetus mimicus,** *Dist. A. M. N. H.* (8) iii, p. 332 (1909).

♀. Head, pronotum, scutellum, and body beneath shining black; antennæ stramineous, the apical joint (excluding base) piceous; rostrum stramineous, the basal joint black; legs stramineous, anterior femora (excluding apices) black, intermediate femora (excluding base) castaneous, posterior femora (excluding

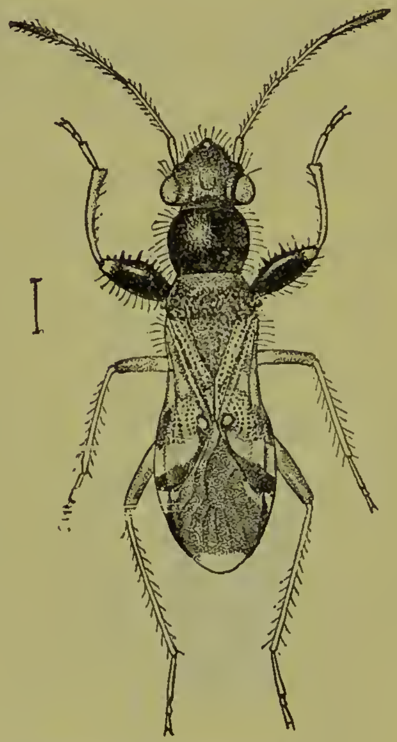

Fig. 26.—*Eucosmetus mimicus.*

base) piceous; corium greyish white, a longitudinal streak to clavus, a streak near basal costal margin, and a broad central transverse fascia crossing apex of clavus cinnamon-brown: in this fascia beyond claval apex is a small white spot in each

corium, and a black transverse spot near apical angle; membrane black, narrowly white at basal outer angles, and with a white spot at apex; antennæ with the first joint reaching apex of head, second and third longest and subequal in length; posterior lobe of pronotum coarsely punctate; clavus longitudinally punctate, the transverse fascia to corium somewhat coarsely punctate; membrane very slightly passing abdominal apex; anterior tibiæ (♀) not spined.

Length 5 millim.

Hab. Pegu (*Coll. Dist.*)

This species, apart from the generic character of the eyes, possesses a simulative appearance to *Caridops gibba*, Bergr. (vol. ii, p. 57).

Genus **MARAMALDUS.**

(To follow *Eucosmetus*, Vol. II, p. 55.)

Maramaldus, *Dist. A. M. N. H.* (8) iii, p. 333 (1909).

Type, *M. admistus*, Dist.

Distribution. N.W. India.

Head long, broad and convex, constricted behind the eyes, the central lobe distinctly prominent at apex; antennæ with the first joint distinctly passing apex of head, second and third joints subequal in length, each longer than fourth; rostrum slightly passing the anterior coxæ, first joint not nearly reaching base of head; pronotum with the anterior lobe (including collar) more than twice as long as posterior lobe, with a distinct broad anterior collar, convex, narrowed anteriorly and posteriorly, smooth and shining, the collar coarsely punctate, posterior lobe coarsely punctate (except near its anterior margin), its lateral angles distinctly acutely spined; scutellum slightly longer than broad, coarsely punctate; abdomen moderately concavely constricted on basal half, its apex truncate; anterior femora strongly incrassate, strongly constricted at base and moderately narrowed at apex, spined beneath; tibiæ curved, not spined in ♀ (♂ unknown); hemelytra not reaching apex of abdomen.

Allied to *Eucosmetus*, but first joint of antennæ distinctly passing apex of head, anterior lobe of pronotum longer and with a broad anterior collar, hemelytra not reaching apex of abdomen, &c.

2830. **Maramaldus admistus,** *Dist. A. M. N. H.* (8) iii, p. 333 (1909).

Head, pronotum, scutellum, and body beneath shining black; anterior collar and posterior lobe more opaque and strongly punctate; antennæ stramineous, finely pilose, apical joint (excluding base) piceous; rostrum ochraceous, the basal joint piceous; legs stramineous, anterior femora (excluding apices) shining black, anterior and intermediate femora with their apical areas piceous; connexivum spotted with stramineous; corium castaneous brown,

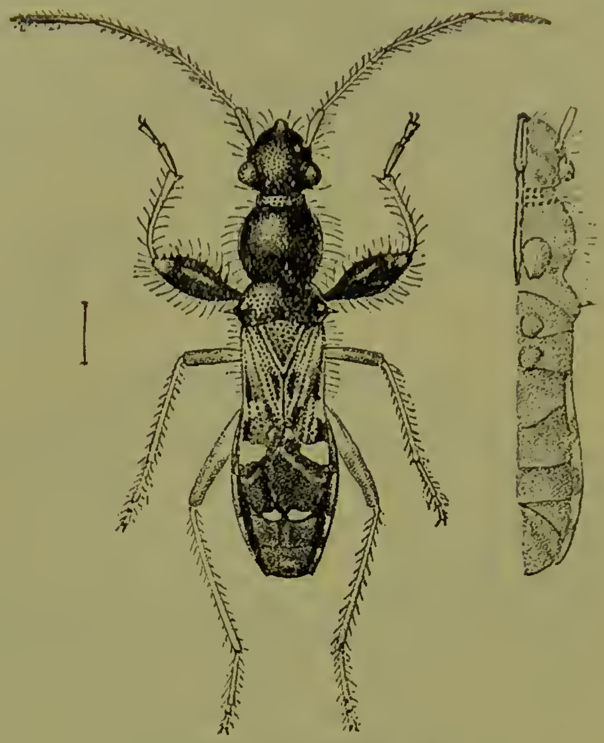

Fig. 27.—*Maramaldus admistus.*

Fig. 28.—*Fontejanus wasmanni.*

spotted with white, the principal spots being an elongate one on both costal and claval margins, the largest near apical angle, and a small rounded spot near claval apex, clavus and anterior half of costal margin with longitudinal series of punctures, a transverse series of punctures before membranal division, which is distinctly paler; membrane piceous, with a white spot at apex; other structural characters as in generic diagnosis.

Length, ♀, 6 millim.

Hab. N.W. India; Kumaon.

FONTEJANUS WASMANNI. (Vol. II, p. 58.)

Since Breddin described this genus and species in the 'Societas Entomologica' he has again redescribed both in the Ann. Soc. Ent. Belg. xlviii, pp. 410 and 411, and has given an outline figure of the species. Subsequently, by the kindness of Father Assmuth, who procured me the loan of the type from Father Wasmann, I am enabled to give an adequate figure of the species.

Species unknown to Writer.

2831. **Bedunia taprobanes**, *Kirk. Canad. Ent.* xxxix, p. 331 (1907).

"Blackish; ocelli red; antennæ blackish fuscous, second segment (except the apex) pale fuscous; basal half of fourth (except base) white; rostrum yellowish testaceous; lateral margins of hind lobe of pronotum yellowish fuscous, collar very short, ferruginous; two ferruginous spots on the middle of the scutellum; tegmina brownish yellow, clavus and basal half of corium largely fusco-ferruginous, with blackish brown punctures, apical half of corium dark fuscous brown, a large pale yellow spot subapically; membrane dark fuliginous, marked slightly with yellow; fore femora, apex of middle femora, apical third of hind femora, apices of tibiæ fusco-piceous, rest yellowish; labium [rostrum] reaching the middle coxæ, *first segment not nearly reaching the base of the head*, but about the hind margin of the eyes; clavus rather irregularly punctured in four rows; fore coxæ strongly spined." (*Kirkaldy.*)

"Length $7\frac{1}{2}$ millim."

Hab. Ceylon; Pundaluoya (*fide Kirkaldy*).

Stated to be described from a mutilated specimen without abdomen; and placed in the genus *Bedunia*, Stål, by its describer, but in the absence of structural characters in the diagnosis it is here treated as of doubtful generic position.

Genus AGUNGA.

(To follow *Appolonius*, Vol. II, p. 62.)

Agunga, *Dist. Ann. Soc. Ent. Belg.* l, p. 413 (1906).

Type, *A. crassa*, Dist.
Distribution. Ceylon.

Head short, much broader than long, as broad as anterior margin of pronotum, narrowed anteriorly where the central lobe slightly projects; eyes recurved, projecting beyond the anterior margins of the pronotum; antennæ inserted at some distance from eyes, robust, first joint slightly passing apex of head, second clavate towards apex, third more strongly so, fourth clavate, pyriform; rostrum just passing the anterior coxæ, first joint extending a little beyond base of head; pronotum subquadrate, anterior lobe longer than posterior, divided by a deep transverse incision, the lateral margins a little concavely sinuate, anterior margin truncate, posterior margin a little rounded; scutellum subtriangular, the basal area moderately gibbous; lateral margins of the corium parallel; anterior femora thickened, anterior tibiæ with a short spine at apex.

Allied to *Appolonius*, Dist.

2832. **Agunga crassa**, *Dist. Ann. Soc. Ent. Belg.* l, p. 413 (1906).

Head, pronotum, and scutellum black, pronotum with a lateral stramineous spot at each extremity of the transverse incision; corium very pale ochraceous, darkly punctate, two elongate black

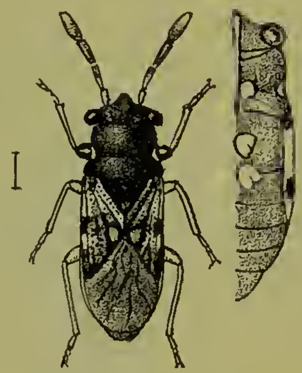

Fig. 29.—*Agunga crassa.*

spots on each lateral margin at and beyond middle, and with a large greyish-white spot at each interior angle; membrane fuliginous with the veins black; body beneath black, legs ochraceous, anterior femora (excluding apices) castaneous; antennæ with the basal joint stramineous, second stramineous with its apical half castaneous, third and fourth piceous, second, third, and fourth

subequal in length; head, pronotum, and scutellum thickly and finely punctate.

Length 3 millim.

Hab. Ceylon; Peradeniya (*Green*).

2833. **Agunga fulgida,** *Dist. A. M. N. H.* (8) iii, p. 334 (1909).

Head and anterior lobe of pronotum shining black, posterior pronotal lobe brownish ochraceous, thickly darkly punctate, the lateral margins (narrower on anterior lobe) stramineous, the posterior lateral angular margins black; scutellum black; corium pale ochraceous, with two short, black, costal, marginal lines (one near middle, the other on apical area), clavus and posterior disk blackly punctate, an obscure greyish white spot at each interior angle; membrane yellowish white, with the veins darker; body beneath black, lateral margins of sternum ochraceous, but anteriorly and posteriorly castaneous; legs ochraceous, anterior femora (excluding apices) and a subapical annulation to intermediate and posterior femora black or piceous; antennæ with the first and second joints stramineous, base of second joint black, third black, fourth ochraceous, with its base black, second, third, and fourth subequal in length; head and anterior lobe of pronotum thickly finely punctate, the latter strongly convexly raised and anteriorly deflexed, posterior pronotal lobe more sparingly and coarsely punctate; scutellum coarsely punctate.

Length $2\frac{1}{2}$ millim.

Hab. Calcutta.

Differing principally from *A. crassa*, Dist., by the shining head and pronotum, which is opaque in *crassa*; anterior pronotal lobe more gibbous and only slightly longer than posterior lobe; in *crassa* the pronotum is wholly black, in *fulgida* only the anterior lobe is black, head more vertically depressed, &c.

Genus ENTISBERUS. (Vol. II, p. 66.)

2834. **Entisberus? subsericea,** *Bredd.* (Pamera (Entisberus))* *Deutsch. ent. Zeitschr.* 1907, p. 205.

"♀. Very near to *E. archetypus*, Dist. Head rather long and slender, pointed; pronotum in front with a narrow neck-ring, the shoulder angles as in *Pamera* (not projecting angularly outwards), shoulder humps slightly tuberculate, convex, the moderately strongly marked transverse constriction lies just behind the middle,

* Breddin has stated that *Entisberus* = *Pamera*. With the figures and descriptions I have given of these genera this pronouncement may probably be ignored.

the punctuation of the 'processus pronoti' is, when present at all, hidden by the short silky shining hair with which the pronotum, head, and scutellum are covered; scutellum behind the middle with a sharp median keel, not forked at the front end; tegmina not extending beyond the abdominal apex; membranal suture rectilinear; anterior femora (which are all that are left on the specimen before me) with a distinct spine on the underside near the apex; second joint of antennæ nearly twice as long as first, third longer than first and shorter than the long spindle-shaped fourth; pectus and venter with short thick silky hair; colouring and pattern as in *E. archetypus*; 'processus pronoti' dirty rust-brown, the shoulder swellings outside pitchy brownish; scutellum towards apex pitchy brown, keel rather paler, extreme apex whitish; marginal area of corium whitish, outermost tip and a narrow interruption blackish; antennæ dirty rusty yellow, first joint, extreme base of second, and the fourth joint pitchy black; anterior legs whitish yellow, terminal half of femora (except the outermost terminal border) and base of tibiæ pitchy black." (*Breddin.*)

"Length $3\frac{2}{3}$ millim."

Hab. Ceylon; Anuradhapura (*fide Breddin*).

This species, which appears from the above description to have been described from a single mutilated specimen, is here included pending its ultimate identification. Its generic position is doubtful, and has been made more obscure by its describer's opinion of the position of the genus which he has confused with *Pamera*.

Genus **LEMNIUS**. (Vol. II, p. 66.)

Lemnius ovatus, *Dist.* (Vol. II, p. 67.)

Lemnius inornatus, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 210.

There can be little doubt that Breddin has simply redescribed *L. ovatus*. My genus and species was unfortunately and unavoidably founded on a carded specimen, and therefore it is a point of satisfaction that my Prussian colleague had been able to figure the underside of the abdomen. The principal difference in the two descriptions relates to the membrane and is explainable. Breddin describes it as "vitreous hyaline" which is correct if it be separated from the body; I describe it as "dark violaceous, its apical margin pale hyaline," which is as it appears reflecting the dark dorsum beneath.

My type was collected by Mr. G. Lewis and simply labelled 'Ceylon'; Breddin's type is from Kandy. It is apparently a scarce species, for it is contained in none of the large collections sent me from time to time by Mr. E. E. Green.

Genus **POTAMIÆNA**, nov.

Type, *P. aurifera*, Dist.

Distribution. At present only known from Bengal.

Body oblong, smooth, not pilose ; head triangular, central lobe projecting in front, with eyes about equal in breadth to anterior margin of pronotum ; ocelli placed close to base of head, nearer to eyes than to each other ; antennæ somewhat long and robust, first joint shortest and passing apex of head, second joint longest, a little longer than third, third and fourth subequal in length ; rostrum extending to posterior coxæ, first joint about as long as head, second and third joints subequal in length ; pronotum distinctly longer than half the width at base which is twice the breadth of head including eyes, anteriorly slightly roundly narrowed, transversely impressed behind middle, before this impression moderately convex, behind the impression coarsely punctate, oblique, and centrally longitudinally impressed, the lateral margins laminate and suberect ; scutellum about as long as broad, foveately impressed, this impression ridged on each side, the ridges posteriorly united and extending to apex ; corium laterally suberectly laminate, a little sinuate before middle and a little roundly ampliate before apex, apical margin obliquely straight ; clavus coarsely longitudinally punctate ; membrane reaching abdominal apex, veins simple ; anterior femora incrassate, narrowed to apices, a distinct spine on lower surface beyond middle between which and apex is a series of short strong spinules, posterior tibiæ shortly sparingly hirsute ; abdominal segments as in *Lachnophorus* (vol. ii, p. 68), to which *Potamiæna* is allied.

2835. **Potamiæna aurifera**, sp. n.

Black, shining ; basal half of fourth joint of antennæ, a lateral

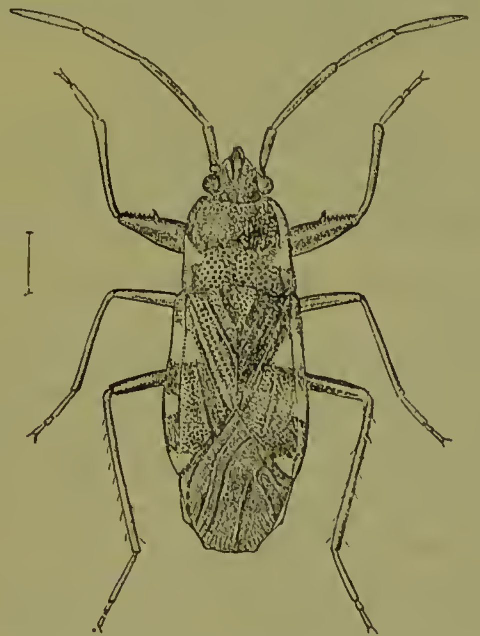

Fig. 30.—*Potamiæna aurifera.*

spot on each side of pronotum a little behind middle, three lateral

spots to corium—the first and largest before middle, the second behind middle, and the third at apex—golden-yellow; abdomen beneath testaceous; rostrum brownish, the basal joint piceous; head punctate; pronotum with the anterior lobe finely, obscurely punctate, the anterior and lateral areas coarsely punctate, posterior lobe coarsely punctate; corium (excepting the pale spots) thickly coarsely punctate; head beneath and sternum sparingly, finely punctate; other structural characters as in generic diagnosis.

Length 6 millim.

Hab. W. Bengal; Paresnath, 4300–4400 ft. (*Annandale*).

Genus TROPISTETHUS. (Vol. II, p. 70.)

2836. **Tropistethus simulans**, *Dist. Ann. Soc. Ent. Belg.* l, p. 414 (1906).

Head, pronotum, scutellum, and body beneath, black; posterior angles of pronotum, corium, apex of scutellum, and legs pale ochraceous; a large subtriangular spot on apical area of corium black; basal two-thirds of anterior femora and extreme bases of intermediate and posterior femora castaneous; antennæ finely pilose with the basal joint castaneous, second and third joints piceous, fourth joint pale ochraceous, first and fourth joints subequal in length and slightly longer than either second or third joints which are also subequal; clavus and corium somewhat thickly and coarsely punctate, and palely pilose; membrane hyaline with prismatic reflections; rostrum reaching the intermediate coxæ; intermediate and posterior tibiæ longly hirsute.

Length $2\frac{1}{2}$ millim.

Hab. Ceylon; Peradeniya (*Green*).

In colour markings closely resembling *T. antennatus*, Scott, from Japan, but it is a less elongate species, with the second joint of antennæ not longer but subequal to third, &c.

Genus CLIGENES. (Vol. II, p. 72.)

Botocudo, *Kirk. Entomologist*, 1904, p. 280.
Microcoris, *Bergr. Deutsch. ent. Zeitschr.* 1908, p. 589.

2837. **Cligenes sexnotatus**, *Bergr.* (Microcoris) *Deutsch. ent. Zeitschr.* 1908, p. 590.

"Shining, black; glabrous except on the abdomen beneath, which is clothed with fine adpressed white pilosity; above densely punctate, punctures of the hemelytra fuscous, beneath somewhat smooth; first joint of the antennæ, rostrum, posterior margin of the metapleura, genital segment (of ♂) and the legs obscure testaceous; femora somewhat infuscate; apex of the scutellum, clavus and indeed the corium whitish, the latter with a small spot near middle of costal margin, a speck near the interior apical angle, and the exterior apical angle, fuscous

black; membrane hyaline; first joint of the antennæ a little shorter than the first joint of the rostrum, second joiut half as long again as the first."

"Length ♂ 2-2·3 millim.; ♀ 2·4-2·8 millim."

Hab. Trichinopoli.

Dr. Schouteden has kindly shown me two specimens of this species, and Dr. Montandon has also sent me another specimen.

Genus **DINIELLA**. (Vol. II, p. 73.)

2838. **Diniella bengalensis**, *Dist. A. M. N. H.* (8) iii, p. 334 (1909).

Head, pronotum, and scutellum shining black; pronotum with the basal margin (very narrowly) and the posterior lateral angles ochraceous; antennæ and corium ochraceous, the latter with a transverse castaneous fascia crossing from costa to inner angle, and then broadly continued ou iuner half of apical margin; membrane pale hyaline; body beneath black; legs and rostrum ochraceous; antennæ robust, first joint shorter than second, second and third subequal in length, each a little shorter than fourth; head sparsely finely punctate; pronotum more coarsely punctate, with indications of an obscure transverse impression; clavus finely sparingly longitudinally punctate, corium at claval suture with two longitudinal rows of coarse punctures, disk of corium more sparingly and irregularly punctate; first joint of rostrum thickened and passing base of head.

Length 3 millim.

Hab. Bengal.

Allied to *D. nitida*, Reut., from Madagascar and the Seychelles.

Genus **TEUTATES**.

(To follow *Arrianus*, Vol. II, p. 74.)

Teutates, *Dist. A. M. N. H.* (8) iii, p. 335 (1909).

Type, *T. sculpturatus*, Dist.

Distribution. At present only known from Calcutta.

Head about as long as breadth between the outer expanse of eyes, broadly obtusely produced before insertion of antennæ, the margins of the central lobe prominent; eyes uot quite reaching the anterior angles of the pronotum; antennæ with the first joint not reaching apex of head, second joint about one and a half times the length of the first (remaining joints mutilated in type); rostrum reaching the apex of the anterior coxæ, first joint not extending to base of head, second and third joints subequal in length; pronotum a little more than half as long as breadth at base, the

lateral margins rounded anteriorly and narrowly dilated, anterior area with two small central tubercles, four longitudinal carinate lines, of which the central two are less developed and do not reach the base, posterior margin truncate, the anterior margin very slightly sinuate; scutellum a little shorter than broad at base, the lateral margins slightly sinuate, the disk foveate and punctate; margins of the corium slightly rounded; membrane not passing the apex of the abdomen, the veins simple; legs of moderate length; anterior femora not spined beneath.

I place this genus near *Arrianus*, Dist.

2839. **Teutates sculpturatus**, *Dist. A. M. N. H.* (8) iii, p. 335 (1909).

Above dull ochraceous, eyes and margins of the central lobe to head piceous; pronotal tubercles brownish-ochraceous; body beneath paler than above, the anterior acetabula darkly margined,

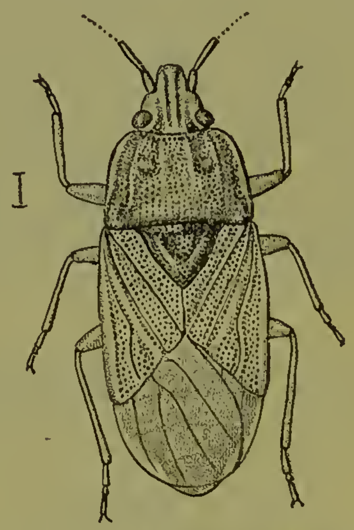

Fig. 31.—*Teutates sculpturatus.*

a broad castaneous longitudinal fascia on each lateral abdominal area; pronotum thickly and more darkly punctate, the lateral margins paler and almost impunctate; scutellum darkly coarsely punctate, the margins of the foveate area raised and almost impunctate; corium semihyaline, coarsely punctate, the clavus longitudinally punctate; sternum punctate. Other characters as in generic diagnosis.

Length 3 millim.

Hab. Calcutta.

Genus ADAUCTUS.

Adauctus, *Dist. A. M. N. H.* (8) iii, p. 492 (1909).

Type, *A. cupreus*, Dist.

Distribution. Founded on a species from Bengal.

Subovate; head about as long as broad, subtriangular, obliquely narrowed anteriorly, the central lobe prominent; ocelli near base and close to eyes; antennæ with the basal joint slightly passing apex of head, second joint slightly longest; rostrum reaching the intermediate coxæ, basal joint not reaching base of head, second joint extending to anterior coxæ; pronotum not transversely constricted, the lateral margins strongly carinate, and anteriorly moderately rounded and narrowed, posterior margin truncate; scutellum a little longer than broad, the lateral margins obliquely straight; corium apically strongly broadened, the apical margin wide, obliquely straight, claval ridges prominent; membrane slightly passing abdominal apex (veins to both corium and membrane are shown in figure); anterior femora thickened, finely spined beneath, tibiæ somewhat longly spinulose; sternum coarsely punctate, the prosternum more finely punctate.

In the enumeration of the Oriental Lygæidæ to be placed near *Cligenes* and *Diniella* (vol. ii, pp. 72 & 73).

2840. **Adauctus cupreus**, *Dist. A. M. N. H.* (8) iii, p. 492 (1909).

Head, pronotum, and scutellum pale cupreous; lateral margins of the pronotum (not extending to the lateral angles) pale ochraceous; corium stramineous; two small spots in clavus, three

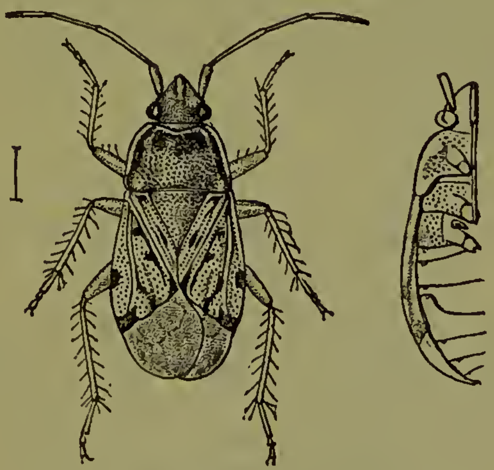

Fig. 32.—*Adauctus cupreus.*

on outer margin of claval suture, one beyond middle of costal margin, a large transverse spot at apical angle, and a linear spot

near middle of apical margin, fuscous brown; membrane hyaline with the veins pale brownish; antennæ, rostrum, body beneath, and legs pale cupreous; antennæ with the second joint longer than either third or fourth, which are subequal in length and a little darker in hue than first and second, fourth pale at base; pronotum with rather more than basal half thickly punctate, with an anterior broad smooth cicatrice not reaching the anterior margin; scutellum punctate, the disk (so far as can be seen in typical specimen) less punctate; corium sparingly punctate, the scutellum longitudinally punctate.

Length $4\frac{1}{2}$ mm.

Hab. Bengal; Pusa (*Lefroy*).

Genus KANIGARA.

Kanigara, *Dist. Ann. Soc. Ent. Belg.* l, p. 414 (1906).

Type, *K. flavomarginata*, Dist.

Distribution. Ceylon.

Head short, triangular, about half the length of pronotum, including eyes as broad as anterior margin of pronotum, with a slight rugosity at inner margin of each eye, ocelli at base and very close to eyes; antennæ with the basal joint hirsute and longly passing apex of head, second joint a little longer than third; rostrum passing the anterior coxæ, first joint not reaching base of head; pronotum broad, subquadrate, depressed anteriorly, basal margin concavely rounded, lateral margins subampliate; scutellum about as long as head and pronotum together, a little depressed or foveate on disk, subtriangular; corium with the lateral margins subparallel; femora moderately thickened, tibiæ strongly, femora more sparsely hirsute, tarsi with the basal joint very long.

Allied to *Aphanus* (vol. ii, p. 79).

2841. **Kanigara flavomarginata**, *Dist. Ann. Soc. Ent. Belg.* l, p. 415 (1906).

Head and pronotum dark castaneous, the latter with the lateral margins broadly ochraceous; scutellum black; corium silvery-grey, its posterior lateral margins pale stramineous, its apical angle piceous, clavus ochraceous; membrane grey, subhyaline, the lateral margins pale hyaline; sternum black; abdomen beneath dark testaceous; legs and rostrum ochraceous; antennæ ochraceous, basal joint hirsute, second joint slightly longer than third; head with a few scattered punctures; pronotum and scutellum thickly finely obscurely punctate; corium excluding lateral margins,

sparsely rather coarsely punctate, clavus thickly longitudinally punctate; tibiæ longly, femora sparsely hirsute.

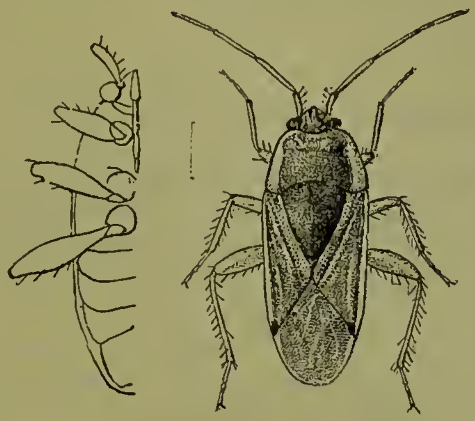

Fig. 33.—*Kanigara flavomarginata.*

Length $3\frac{1}{2}$ to 4 millim.
Hab. Bengal; Pusa (*Lefroy*). Ceylon; Peradeniya (*Green*).

Genus **APHANUS.** (Vol. II, p. 79.)

2842. **Aphanus kangricus,** *Kirk. Canad. Ent.* xxxix, p. 331 (1907).

"Apparently belongs to Stål's subgenus *Xanthochilus*, and probably allied to *A. orientalis*, but the transverse impression on the pronotum is much more distinct; dull blackish, with brownish hairs; labium [rostrum] pale piceous; eyes reddish-brown, darkening outwardly; ocelli colourless; laminate lateral margin of pronotum yellowish-brown, hind area pale castaneous, punctured with blackish; scutellum apically fading a little, punctured with black; ambulacra, trochanters, bases of femora, first two segments of tarsi, hind margin of metasternum, etc., pale castaneous, rest of legs more or less piceous; tegmina testaceous, subhyaline, with brown punctures; about the apical half brown-fuscous, with a large subtriangular pale yellow spot on the outer half of the middle; basal half of membrane smoky, except one pale undulating vein and two spots; apical margin irregularly and faintly smoky. Form apparently that of *A. orientalis*, but the pronotum is impressed transversely basad of the middle, the lateral margins of the pronotum laminately keeled; antennæ as in *A. orientalis*; labium [rostrum] reaching a little beyond the middle of the mesosternum; clavus with three rows of punctures; fore femora more strongly incrassate than in *A. orientalis*, and have two strong submedian spines and a few feeble ones; tarsi dilated at the apex; hind femora not dentate." (*Kirkaldy.*)

"Length $8\frac{1}{8}$ millim."

Hab. "Kangra Valley, 4,500 feet (June, *G. C. Dudgeon*)," (*fide Kirkaldy*).

I cannot identify this species from the above description with any specimens received from the same locality.

2843. **Aphanus dudgeoni**, *Dist. A. M. N. H.* (8) iii, p. 336 (1909).

Head pale dull castaneous, with irregular black lines; antennæ ochraceous, basal joint much mottled with black, apices of second and third joints and fourth joint (excluding base) piceous; pronotum ochraceous, thickly brownly punctate, the disk of the anterior area and the lateral margins much more sparsely punctate; scutellum ochraceous, thickly brownly punctate, the extreme apex pale ochraceous; corium brownish, thickly punctate, the lateral margins ochraceous, sparsely blackly punctate, the apical angle and

Fig. 34.—*Aphanus dudgeoni.*

a spot before it blackish, some obscure basal suffusions and two small spots about middle of apical area, pale ochraceous; membrane brownish ochraceous, with darker mottlings, the basal area black traversed by the paler veins, a small pale ochraceous spot behind apical angle of corium; head beneath, rostrum, sternum, and legs ochraceous, apices of tibiæ piceous, all (excluding head) darkly punctate, central areas of meso- and metasterna black; abdomen beneath somewhat testaceous; basal joint of antennæ moderately thickened, with prominent spinous hairs, fourth joint a little longer than third or second; rostrum slightly passing anterior coxæ; pronotum

strongly transversely impressed near middle, the lateral margins laminate, anterior femora shortly spinous beneath, but with a longer spine before apex; intermediate and posterior tibiæ prominently spinulose.

Length $7\frac{1}{2}$ millim.

Hab. Kangra Valley, 4500 feet (June, *G. C. Dudgeon*); Purneah District (*Paiva, Ind. Mus.*).

This species was taken by the same collector at the same locality and at the same time of the year as the species described by Kirkaldy as *A. kangricus*. It cannot, however, be reconciled with Kirkaldy's description, from which it seems abundantly distinct.

2844. **Aphanus ornatulus,** *Dist. A. M. N. H.* (8) p. 336 (1909).

Reddish ochraceous; pronotum and scutellum thickly darkly punctate, lateral margins of the pronotum pale ochraceous, with scattered black punctures; head piceous brown, with a small central ochraceous spot at base; antennæ brownish ochraceous, the basal joint, apices of second and third joints, and the fourth joint (excluding base) piceous; corium with the lateral margins narrowly pale ochraceous and containing a costal series of dark punctures, on apical area three large black spots, one on lateral margin before apex which is narrowly united to a similar spot near apex of clavus and inner angle of membrane, the third spot occupying apical angle of corium; membrane black; sternum and legs blackly punctate, apices of femora and tibiæ narrowly blackish; antennæ with the first joint thickest and shorter than head, second a little longer than the third and slightly longer than the fourth joint; pronotum transversely impressed near middle, before which it is moderately convexly raised, clavus and corium thickly somewhat finely punctate; membrane reaching apex of abdomen; rostrum about or almost reaching the intermediate coxæ, the area of the sternum between the coxæ black; tarsi very pale ochraceous, with their apices black.

Length 8 millim.

Hab. Nepal Terai.

2845. **Aphanus bengalensis,** *Dist. A. M. N. H.* (8) iii, p. 337 (1909).

Head reddish ochraceous; antennæ brownish ochraceous, basal joint, apices of second and third joints, and fourth joint (excluding base) piceous; pronotum ochraceous, thickly blackly punctate, the lateral margins paler and longitudinally coarsely blackly punctate; scutellum ochraceous, darkly punctate (somewhat mutilated in type); clavus and corium pale ochraceous, thickly blackly punctate, the lateral margins pale and sparingly coarsely blackly punctate; a somewhat large greyish-white spot on apical margin at each

side of basal angle of membrane, the apical angle of corium piceous; membrane pale brownish, the upper margins paler, and with a small but very pale spot near apical angle of corium; prosternum ochraceous, blackly punctate; meso- and metasterna piceous, the latter with two marginal lines and the posterior margin ochraceous and blackly punctate; abdomen beneath piceous; legs orange-yellow, sparingly, finely, blackly punctate, apices of the tibiæ black; first joint of antennæ thickest and shorter than head, second and fourth subequal in length, each a little longer than third joint; pronotum transversely impressed near middle, before which it is slightly convex; rostrum slightly passing the anterior coxæ; anterior femora shortly spined beneath; membrane very slightly passing the abdominal apex.

Length $6\frac{1}{2}$ millim.

Hab. Bengal; Pusa (*Lefroy*).

Allied to *A. sparsus*, Dist. (vol. ii, p. 81).

2846. **Aphanus suratensis**, *Dist. A. M. N. H.* (8) iii, p. 338 (1909).

Head, pronotum, and scutellum black; lateral pronotal margins (not quite reaching base) ochraceous, two central spots on basal

Fig. 35.—*Aphanus suratensis.*

area of pronotum reddish ochraceous; extreme apex of scutellum ochraceous; hemelytra black; corium with the outer claval margin (more or less), the costal margin for about two-thirds from base with an inner elongate spot near its termination, and a large round

spot near the apical margin ochraceous; membrane pale fuliginous, subhyaline; body beneath black, lateral margins of sternum ochraceous, lateral margins of abdomen pale brownish; rostrum ochraceous, the basal joint black; legs ochraceous, anterior femora (excluding base), apical halves of intermediate and posterior femora, and extreme apices of tibiæ black; second joint of antennæ longer than third (fourth mutilated in type); pronotum transversely constricted near middle, behind the constriction thickly punctate, the lateral margins laminate and impunctate; scutellum obscurely finely punctate; clavus thickly coarsely punctate; corium (excluding costal margin) thickly punctate; anterior femora spined beneath; intermediate and posterior tibiæ spinulose.

Length 8 millim.

Hab. Bombay Prov.; Surat.

Genus **DIEUCHES**. (Vol. II, p. 82.)

DIEUCHES UNIFORMIS. (Vol. II, p. 84.)

This species originally described from Ceylon has now been received from Nepal.

Add: *Hab.* Nepal; Benikhola (*Indian Mus.*).

The following species have been described by Breddin from Ceylon, but with all the material that has been supplied me from that island by Mr. E. E. Green and Mr. Bainbrigge-Fletcher, I have failed to recognize them. Breddin had a keen perception of minute differences combined with a non-acceptance of much variation in species and an apparent disbelief in the same species having a wide distribution. Our views on these points are therefore very divergent. I have, however, added his descriptions and treated and numbered the species as distinct with a hope of one day being able to examine his types. One species, *Dieuches subangustatus*, Bredd. (Deutsch. ent. Zeitschr, 1907, p. 207) is quoted as from Ceylon, but I can find no description of it, which prevents its inclusion in this enumeration.

2847. **Dieuches nudipes,** *Bredd. Stett. ent. Zeit.* 1906, p. 325; *id. Deutsch. ent. Zeitschr.* 1907, p. 207.

"Resembles *D. yeh*, Dohrn,* and closely allied to it; head of same structure; antennæ pitchy black, considerably more slender, third joint especially thin, not or only quite imperceptibly clubbed at apex, second and third joints suffused pitchy brown, the white ring of fourth joint a little broader than the pitchy black base; pronotum of ♂ (as in *D. yeh*) scarcely less strongly constricted

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* I have included *yeh*, Dohrn as a synonym of *D. uniguttatus*, Thunb. (vol. ii, p. 82).

far behind the middle; female separated from male by the distinctly shorter pronotum proper, which is considerably broader at the constriction; pronotal process with distinct bright rusty-yellow (before and behind black) middle keel, a similarly coloured line on each side of the marginal wrinkle, posterior border at middle narrow and with a quite suffused dull reddish border; shape of shoulder-angle and colour of scutellum as in *D. yeh*; colour of corium rather dark, the black transverse band on costal border rather narrow, the front and hind margins strongly obliquely truncated, band-spot before the angle of corium punctured with black, not extending so far inwards as in *D. yeh*, subtrapezoidal; membrane of the same length and ground-colour as in *D. yeh*, the apical half darker, somewhat more sparingly sprinkled with greyish white or suffused yellowish atoms; of the five veins of the membrane the second only has a strongly curved, narrow, otherwise little conspicuous yellowish streak, the third sometimes having a small streak; from the typical yellow marginal spots of the abdomen beneath extends the long produced front one, not quite to the height of the front glandular spot in the fifth sternite; anterior femora on the upperside with very fine, scanty and short, scarcely visible hairs; colour of legs as in *D. yeh*." (*Breddin.*)

"Length 11 to 12 millim."

Hab. Ceylon; Puttalam, Nalanda, Anuradhapura, Kanthaley, (*fide Breddin*).—Java (*fide Breddin.*)

2848. **Dieuches horni**, *Bredd. Stett. ent. Zeit.* 1906, p. 326; *id. Deutsch. ent. Zeitschr.* 1907, p. 207.

"A narrow delicate species; antennæ slender, the third joint especially thin, terminally not or very indistinctly clubbed, nearly as long as the second joint, at least the first two joints of the antennæ paler than in *D. nudipes*, suffused pitchy brown, basal joint sometimes rusty yellow, ring of the fourth joint honey-yellow, not very sharply defined, somewhat broader than the pitchy brown base of the joint; pronotum very strongly constricted far behind the middle, especially in ♂, 'pronotum proprium' in ♂ distinctly longer than its width at the constriction, where it is scarcely broader than the head and eyes, shoulders distinctly angular, behind slightly concavely indented; the pronotal process in and behind the middle with a rather large transverse indistinct dull red spot, resting on the hind margin, and the front border of the pronotum, sometimes also two dots on the scutellum, of similar reddish colour; corium comparatively pale coloured, the black transverse band on costal margin rather broad, front border irregularly obliquely truncated, hind border rounded, the whitish band-spot before the corium angle strongly compressed; the latter very finely and sparsely punctured with pitchy black, three-cornered, with very pointed inner angles; membrane remarkably

smaller than in *D. nudipes*, in both sexes not reaching the anal end of the body, pale yellowish brown; a narrow line along the membranal suture, the whole basal half of second vein, as well as the stripes on veins 3, 4, 5, and the typical dot on apex of corium, honey-yellow; the apical half of membrane with a large clouded spot composed of contiguous honey-yellowish atoms; the broad terminal border of the seventh abdominal tergite in ♂, a middle stripe on eighth tergite in ♀ rusty yellow; front femora above with scattered, short and rather inconspicuous hairs, front and middle tibiæ, except the darkened tips, dirty rusty yellow, middle femora above with a yellowish longitudinal stripe; the teeth on front tibiæ and middle femora in ♂ rather small." (*Breddin.*)

"Length $10\frac{1}{3}$–$10\frac{2}{3}$ millim."

Hab. Ceylon; Nalanda, Putalam (*fide Breddin*).

2849. **Dieuches villosulus**, *Bredd. Stett. ent. Zeit.* 1906, p. 327; *id. Deutsch. ent. Zeitschr.* 1907, p. 207.

"Smaller and distinctly narrower than *D. nudipes* and *yeh*, but distinctly broader at the shoulders than *D. horni*; antennæ very darkly coloured, the third joint somewhat apically thickened, fourth joint with a narrow whitish annulation which is only as broad as the pitchy black base; pronotum in the male with a strong constriction which is nearer the middle than in *D. horni*, the process considerably broader than in *D. horni* between the shoulders, but the 'pronotum proprium' distinctly narrower and also shorter than in the last-named species, about as long as its width at the constriction; in the female the 'pronotum proprium' is broader and shorter, a little longer than the process; the pronotal process in its anterior half with transverse reddish cloud-spot, the middle keel on the front half yellow, shoulder angles rounded, the marginal pronotal keel very weak; corium appearing rather darkly coloured from the denser punctuation, the black transverse band on the costal margin rather narrow, hind border straight, truncated, the front border also a little obliquely truncated, fasciate spot before the angles of the corium rather large, dull whitish, strongly blackly punctate; membrane rather narrow, elongate, at least reaching the anal apex, deep fuliginous black, a moderately large suffused yellowish grey cloud-spot near the tip, a short longitudinal dash on each of the five membranal veins not far from the base, as well as a rhomboidal dot on the hind angles of the corium, conspicuously 'yolk-yellow; anterior femora above with rather long and thick grizzly hairs; anterior and intermediate tibiæ unusually dark, piceous brown to piceous black." (*Breddin.*)

"Length $10\frac{1}{2}$ to $11\frac{1}{2}$ millim; breadth at base of hemelytra, ♂ $2\frac{1}{2}$, ♀ $2\frac{2}{3}$ millim."

Hab. Ceylon; Anuradhapura, Harrowapatam (*fide Breddin*).

Genus UZZA.

(To follow *Dieuches*, Vol. II, p. 82.)

Uzza, *Dist. A. M. N. H.* (8) iii, p. 338 (1909).

Type, *U. karenia*, Dist.
Distribution. Burma.

Head (including eyes) slightly wider than anterior margin of pronotum; ocelli close to basal margin, almost equally removed from eyes as from each other; antennæ long, basal joint longer than first joint of rostrum; first, second, and third joints almost subequal in length, each a little longer than fourth; rostrum about reaching the anterior coxæ, first joint about or almost reaching base of head; pronotum as long as broad at base, transversely constricted a little behind middle, before which it is subglobose, the lateral margins moderately ampliate, the basal

Fig. 36.—*Uzza karenia.*

margin concavely sinuate; scutellum longer than broad; lateral margins of corium concavely sinuate; membrane reaching or slightly passing the abdominal apex; legs long, anterior femora thickened, obtusely spined beneath, and armed with a strong spine before apex, posterior legs very long, posterior tibiæ much longer than the femora and about as long as head, pronotum, and scutellum together, posterior tarsi with the first joint about twice as long as the other two joints together.

Allied to *Dieuches*, from which it differs in having the basal joint of the antennæ longer than the first joint of the rostrum; by the length of the posterior legs allied to *Pœantius*.

2850. **Uzza karenia**, *Dist. A. M. N. H.* (8) iii, p. 339 (1909).

Head black; antennæ piceous, base of fourth joint pale luteous; pronotum with the anterior lobe black, the posterior lobe piceous, with a central longitudinal ochraceous line, the lateral margins (not reaching base) pale ochraceous; scutellum black, the extreme apex ochraceous; corium dark castaneous, the basal third, two marginal spots beyond middle, and the apical angles ochraceous, a small spot on each side of claval apex pale testaceous; membrane black, with a subcentral, waved, transverse, greyish fascia; body beneath black; rostrum and legs piceous, bases of intermediate and posterior tibiæ pale ochraceous; structural characters as in generic diagnosis.

Length 6 millim.

Hab. Burma; Karennee.

Genus **PŒANTIUS**. (Vol. II, p. 85.)

2851. **Pœantius lineatus**, *Stål, En. Hem.* iv, p. 162 (1874).
Pœantius brevicollis, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 207.

Head, anterior lobe of pronotum, and scutellum black, posterior lobe of pronotum ochraceous, thickly blackly punctate; lateral margins of pronotum (not quite reaching base), a central longitudinal line to posterior lobe, and near its anterior margin behind the transverse impression on each side some small impunctate areas, and the corium, pale ochraceous; longitudinal striæ to clavus (becoming obsolete towards base), and the apical area to corium dark fuscous-brown, the latter crossed by a whitish transverse line above which this dark area is sometimes broken up into longitudinal bands; membrane obscure greyish, usually reflecting the dark abdomen beneath; body beneath and legs black; posterior margin of metasternum, coxæ, and bases of intermediate and posterior femora pale ochraceous-yellow; extreme apex of scutellum pale yellowish; antennæ ochraceous, base of first joint, extreme apex of second, third apically or nearly all, and the fourth piceous; pronotum only slightly longer than broad; membrane scarcely reaching or slightly passing abdominal apex.

Length 4⅔ to 6 millim.

Hab. Bombay (*Dixon*). Bengal; Ranchi (*Irvine*). Ceylon (*fide Breddin*).—Philippines (*fide Stål*). Japan (*Lewis, Coll. Dist.*).

To be separated from the other Indian species, *P. festivus*, Dist. (vol. ii, p. 86), by the relatively shorter and broader pronotum.

Genus NAUDARENSIA. (Vol. II, p. 86.)

2852. **Naudarensia manipurensis**, *Dist. A. M. N. H.* (8) iii, p. 339 (1909).

Head, pronotum, and scutellum piceous; pronotum with the middle of the lateral margins distinctly paler; antennæ with the first and second joints brownish ochraceous, apex of second joint, third (excluding base) and the fourth joint piceous; corium brownish-ochraceous, thickly darkly punctate, a small black spot near

Fig. 37.—*Naudarensia manipurensis.*

middle of costal margin, and a transverse linear pale spot before apex; membrane fuliginous, the basal margin pale; body beneath, rostrum, and legs black or piceous; bases of intermediate and posterior femora pale ochraceous, tibiæ (excluding apices) brownish ochraceous; first joint of antennæ scarcely reaching apex of head and finely spinulose, second joint a little longer than third; pronotum about as long as broad at base, transversely compressed near middle, before which it is finely and behind which more coarsely punctate; scutellum somewhat finely punctate; clavus longitudinally punctate, corium somewhat coarsely punctate except on costal margin, membrane reaching apex of abdomen; rostrum almost reaching the intermediate coxæ; anterior femora incrassate

and shortly spinous beneath; posterior tarsi with the basal joint about twice as long as the other two joints together.

Length 6 millim.

Hab. Manipur.

The membrane reaching the abdominal apex in this species will require a corresponding modification in the generic diagnosis.

Genus **LETHÆUS**. (Vol. II, p. 87.)

2853. **Lethæus taprobanes**, *Kirk. Ann. Soc. Ent. Belg.* 1908, p. 11.

"Dull black; first segment of the antennæ blackish piceous, second and third fusco-castaneous, fourth sordid ochreous; ocelli pale stramineous; lateral margins of pronotum (very narrowly) and a spot near the postero-lateral angle pale ferruginous; tegmina blackish, clavus exteriorly and interiorly narrowly obscure ferruginous, a pale spot near the scutellum a little basal of the middle; corial veins more or less obscure ferruginous, a couple of pale spots and two or three small pale (black-punctured) areas; also close to the extero-posterior angle, there is a large circle, the interior dark, concolorous with the tegmen, the periphery narrowly pale; membrane smoky cinereous, veins pale, their apical parts darker; femora piceous, rest of legs and the entire labium [rostrum] obscure ferruginous; odoriferous orifices blackish, part of the canal ferruginous; pronotum, except a transverse submedian area, and scutellum strongly and finely punctured, tegmina more coarsely; labium [rostrum] reaching hind coxæ, first segment [joint] reaching rather beyond the base of the head." (*Kirkaldy.*)

Length 7 millim.

Hab. Ceylon; Trincomalee (*Green*).

Kirkaldy has rendered his description somewhat unintelligible by omitting to give any dimension of the species. Two specimens received from Mr. Green and measuring 7 millim in length appear to agree with the diagnostic characters. Kirkaldy has also refrained from giving any locality, but his description is included under 'Sinhalese Hemiptera.'

2854. **Lethæus crassiceps.**

Rhyparochromus ? crassiceps, *Dohrn* (vol. ii, p. 78); *Bredd.* (Lethæus) *Deutsch. ent. Zeitschr.* 1907, p. 212, fig. 6.

I had previously referred to this species which I was unable to identify, even generically, from Dohrn's description. Since then Breddin has stated that he has examined the type, of which he gives the following description:—

"♂. A small, finely coloured but not shining species, with a short plump and roundly pointed head, which, with the comparatively large eyes, is distinctly more than half as broad as the pronotum

between the shoulders and nearly two-thirds as long; the part of the head lying before the eyes when seen from the side is scarcely longer than the average length of the eye; front rather strongly arched, the ocelli nearly touching the eyes; pronotum with nearly straight margins, narrowed in front, slightly rounded in the neighbourhood of the front margin, with a transverse sharp impression just behind the middle; 'pronotum proprium' and 'processus' both in the same horizontal plane, the latter punctured, rather depressed laterally near the distinctly convex humeral angles; marginal keel sharp and distinct, near the front margin with perpendicular bristles; clavus with two longitudinal nervures and four distinct punctate lines, the second commencing from the scutellar margin disappears suddenly behind the middle of the clavus and gives place to a smooth longitudinal stripe; corium with sparse but distinct punctures and sharply raised nervures, the rimula placed close to the inner side of the outer nervure, which on the inside is without a bordering row of punctures; costal area with a single row of punctures bordering the cubital which disappears beyond the middle, in its basal third narrow and furrow-like, afterwards moderately broadened; the short nervure of the corium simple, running into the cubital nervure; membranal nervures connected at the basal cell; sternum coarsely punctured, rather shining, the area of the orifices rather large, its outer border far removed from the outer border of the 'evaporativmuschel'; abdomen beneath silky, shining, with microscopic net-like pattern; side of the fifth sternite with the typical three glandular spots; legs short, femora, especially the anterior, rather thickened, the latter beneath towards the extremity with a series of strong bristles; first joint of posterior tarsi nearly one and a half times as long as the two apical joints together; rostrum reaching the middle coxæ, first joint scarcely passing the neck; second joint of antennæ at least twice as long as the first, remaining joints mutilated. Dull black, apex of scutellum pitchy black; abdomen piceous brown; anterior margin of pronotum, lateral marginal keel and 'processus' pitchy brown, the latter with pale dashes; hemelytra bright rusty yellowish, punctured with pitchy brown; a spot behind the middle of the clavus, the tip of the posterior angle to the corium, as well as some macular markings behind the middle which form two indistinct eye-spots, pitchy black; membrane yellowish hyaline, nervures pale greyish; legs, rostrum, and antennæ (as far as existing in type) bright rusty yellowish." (*Breddin.*)

"Length $4\frac{1}{2}$ millim."

Hab. Ceylon (*Nietner*).

2855. **Lethæus carinulatus**, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 214.

"♂ ♀. Moderately shining; head black, when seen from the side in comparison with the other species rather slender, narrowed towards the front, the throat side not or only slightly thickened, with a slight transverse impression under the eyes; throat with

a broad longitudinal furrow deepening towards the base of the rostrum; punctuation of the front moderately fine and thick, interspersed with unpunctured places; pronotum almost flat, trapezoidal; the shoulders angular, only slightly rounded off, and distinctly narrower than the corium behind the base; lateral pronotal margins nearly linear, the dull rusty yellowish lateral keel narrow, slightly broadened in front, suddenly rounded off and disappearing at the anterior angle, near which it bears a long perpendicular bristle; pronotal process coarsely punctured, pitchy brown, with a very distinct median longitudinal keel, not quite extending to hind border; 'pronotum proprium' rather more finely punctured, pitchy black, front part like a collar, being divided off on each side by an oblique impressed linear furrow, rising from the anterior angles and not quite reaching the middle of the pronotum; scutellum black, thickly and coarsely punctured, a **Y**-shaped slight convexity of the surface more diffusely punctured and suffused pitchy-brown; corium and clavus with rather coarse punctures and narrow strongly raised veins, the 'rimula' following the cubital vein at the narrowest and not separated from it by punctuation; the intermediate vein of corium distinctly forked in front, costal area on basal third of corium very narrow, forming a furrow, with one row of punctures, afterwards broader with irregular punctuation; of the four rows of punctures on clavus the two middle rows are regularly arranged throughout and approximate; hemelytra pitchy brown, the veins, the brown-punctured irregularly bordered basal third, as well as an irregular transverse patch before the hinder angle of the corium, whitish; membrane rather small, with one or two large basal cells, light smoky grey, the veins darker, the inner angle and a stripe along the membranal division pitchy brown; underside black, pectus coarsely punctured, shining, the venter almost lustreless, the female ano-genital apparatus pitchy brownish; rostrum pale yellow, reaching posterior coxæ, fourth joint scarcely half as long as third; legs pitchy black, apices of femora rather paler, anterior femora on the underside with a row of bristles increasing in length towards the apex, near the end with a comb of small spines, four or five, of which the proximal is much the longest; tibiæ and tarsi pale rusty yellow, the former with a few half upright bristles (hind tibiæ, for instance, with six on the upper side); antennæ pitchy brown, second joint paler, articulations between joints 2, 3, and 4 whitish." (*Breddin.*)

"Length $5\frac{2}{3}$ to $6\frac{1}{4}$ millim."

Hab. Ceylon; Nalanda, Anuradhapura (*fide Breddin*).

I have not seen this species.

Genus **NEOLETHÆUS.**

Neolethæus, *Dist. A. M. N. H.* (8) iii, p. 340 (1909).

Type, *N. typicus*, Dist.

Distribution. Burma.

Head about as long as broad (including eyes), central lobe a little

prominent at apex, ocelli near base, much closer to eyes than to each other; antennæ with the first joint moderately thickened, not quite as long as head, second and third joints slender, second longer than third; rostrum reaching the intermediate coxæ, first joint reaching base of head; pronotum subquadate, slightly transversely impressed before middle, much more coarsely punctate behind the impression than before it, and containing a central longitudinal carinate line, the anterior margin truncate, more sparsely punctate, and extending on each side a little beyond eyes, the lateral margins almost obliquely straight, the anterior angles rounded, basal margin truncate, the basal lateral angles longitudinally ridged; scutellum triangular, about as long as broad, discally depressed; membrane slightly passing abdominal apex, venation generally as in *Lethæus*; femora incrassate, the intermediate less and the posterior femora a little more so, the anterior femora shortly spined beneath, the intermediate and posterior femora somewhat spinously hirsute, tibiæ spinulose, posterior tarsi with the basal joint twice as long as the remaining joints together.

2856. **Neolethæus typicus**, *Dist. A. M. N. H.* (8) iii, p. 340 (1909).

Black; two small spots to clavus, two on corium (one near

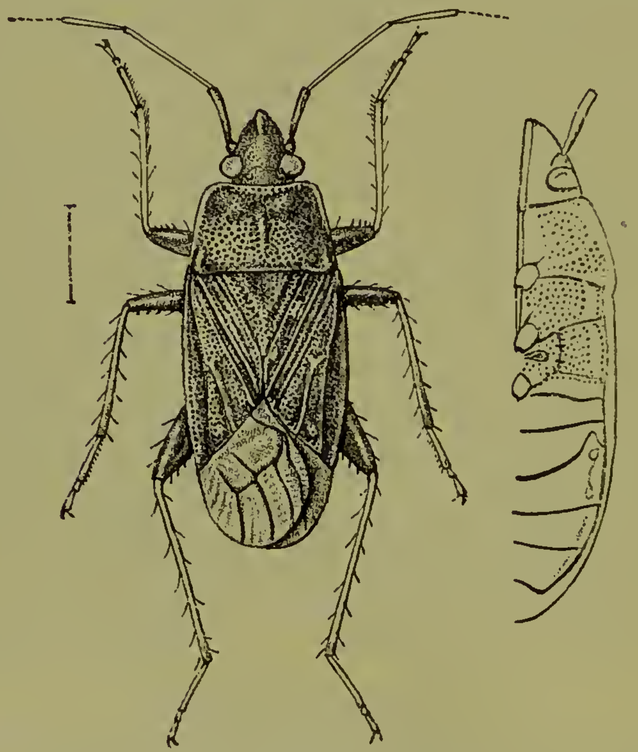

Fig. 38.—*Neolethæus typicus.*

middle, the other near apical margin), second and third joints of antennæ, rostrum (excluding basal joint), tibiæ, and tarsi more or

less ochraceous ; basal joints of antennæ and rostrum, femora, and apices of tibiæ and tarsal joints castaneous brown ; head (excluding central lobe) punctate; pronotum before the faint transverse impression finely, behind it coarsely punctate ; scutellum foveately impressed and somewhat sparingly punctate, the lateral marginal areas more thickly and coarsely punctate ; corium thickly and finely punctate, the veins prominent, clavus with two longitudinal series of punctures ; membrane brownish ochraceous.

Length 9½ millim.

Hab. Burma ; Palon.

Genus ABANUS.

Abanus, *Dist. A. M. N. H.* (8) iii, p. 493 (1909).

Type, *A. coloratus*, Dist.

Distribution. Bengal.

Head about as long as broad, angularly narrowed anteriorly, the central lobe prominent ; ocelli near base and eyes ; antennæ with the basal joint shorter than head but projecting beyond it, second joint a little longer than third, third and fourth subequal in

Fig. 39.—*Abanus coloratus.*

length ; rostrum reaching the intermediate coxæ, first joint very slightly passing base of head ; pronotum elongate, about as long as broad at base, with a narrow anterior collar, the lateral margins nearly straight and moderately laminately reflexed, an obscure transverse impression a little behind middle ; scutellum elongate,

longer than broad; hemelytra long and narrow; membrane with the venation much as in *Lethæus*; anterior femora moderately incrassate, finely spined beneath near apex; tibiæ spinulose; tarsi with the basal joint as long as or longer than the two remaining joints together.

To be placed near the genus *Lethæus*.

2857. **Abanus coloratus**, *Dist. A. M. N. H.* (8) iii, p. 493 (1909).

Head, pronotum, and scutellum dull black; extreme lateral margins of pronotum more piceous than black; apex of scutellum ochraceous; body beneath dull black; rostrum piceous brown, its basal joint and apex black; coxæ and legs more or less piceous brown; clavus pale piceous black, corium castaneous, an inner line before clavus, lateral margin for about two-thirds its length, and a transverse fascia before apical area pale ochraceous, apical area black; membrane piceous black and not quite reaching abdominal apex; antennæ brownish ochraceous; structural characters as in generic diagnosis.

Length 9 millim.

Hab. Bengal; Chapra (*Mackenzie*).

Genus **USILANUS**.

Usilanus, *Dist. A. M. N. H.* (8) iii, p. 341 (1909).

Type, *U. burmanicus*, Dist.

Distribution. Burma.

Head somewhat long, subtriangular, about or almost as long as the anterior lobe of the pronotum, the central lobe distinctly produced and projecting in front, ocelli near base, much nearer to eyes than to each other; antennæ with the first joint moderately thickened, shorter than head but passing its apex, second, third, and fourth joints almost subequal in length; rostrum reaching the intermediate coxæ, first joint slightly passing the base of head, second not reaching the base of prosternum; pronotum shorter than breadth at base, the lateral margins obliquely rounded, transversely impressed behind middle, the anterior margin scarcely or only slightly broader than the eyes, the anterior lobe subglobose, the basal area or posterior lobe coarsely punctate, faintly, centrally, longitudinally ridged, and here the lateral margins are a little laminate, posterior margin distinctly concave before scutellum, the anterior margin truncate; scutellum triangular, slightly longer than broad at base; clavus longitudinally punctate, corium with the subcostal vein distinctly curved; membrane slightly passing the abdominal apex, with four longitudinal veins, the two inner strongly curved towards base and reaching basal margin, the two outer not reaching basal margin; anterior femora incrassate and somewhat continuously but irregularly spined beneath, anterior

tibiæ a little curved, somewhat flattened and also shortly spined beneath on their apical halves, intermediate and posterior legs moderately slender, the tibiæ setose, first joint of the posterior tarsi about one and a half times as long as the remaining joints together.

Allied to the genus *Eremocoris*.

2858. **Usilanus burmanicus**, *Dist. A. M. N. H.* (8) iii, p. 341 (1909).

Body above black, lateral margins of the corium narrowly ochraceous; antennæ piceous, fourth joint with about its basal half pale ochraceous; head beneath and sternum black, abdomen piceous; rostrum pale ochraceous, the basal joint black; legs pale

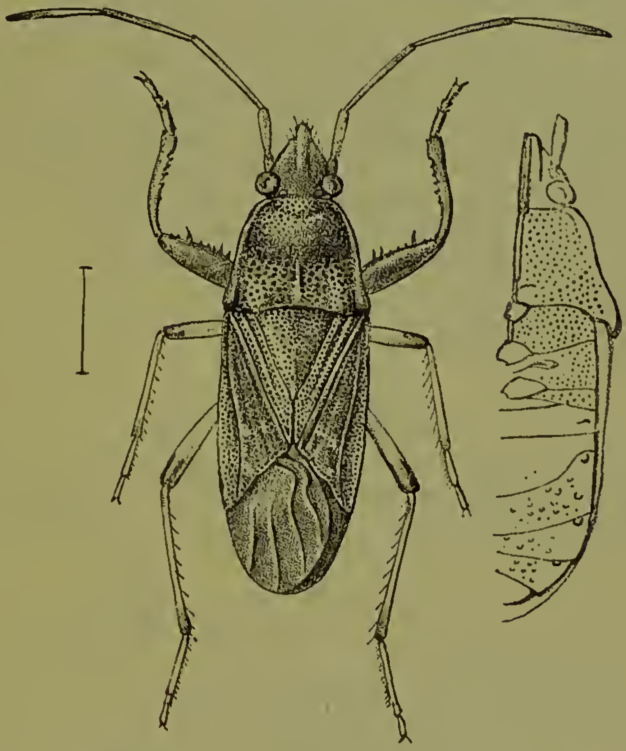

Fig. 40.—*Usilanus burmanicus.*

ochraceous, the anterior femora, apices of intermediate and posterior femora, apices of all the tibiæ, and apices of the anterior tarsal joints black; head somewhat coarsely punctate on basal area; pronotum finely and sparsely punctate on the smooth anterior subconvex lobe, more coarsely so near the anterior margin, posterior lobe thickly coarsely punctate; scutellum finely punctate, the apical area with an obscure central, longitudinal, carinate line; corium somewhat evenly and regularly punctate; sternum more or less coarsely punctate, the three ultimate abdominal segments finely irregularly tuberculate.

Length 10 millim.

Hab. Burma; Karennee.

2859. **Usilanus denotatus**, *Dist. A. M. N. H.* (8) iii, p. 342 (1909).

Piceous black; less than basal half of pronotum and anterior and lateral pronotal margins (narrowly), clavus and corium, lateral margins (narrowly) of sternum and posterior lateral angles of prosternum, abdomen beneath, first and second joints of antennæ (remaining joints mutilated in type) castaneous brown; rostrum and legs ochraceous, basal joint of rostrum and the anterior femora castaneous brown; margins of the clavus paler; inner apical area to corium piceous, containing two small pale spots (one at its anterior margin, the other on the apical margin); membrane fuscous-brown; head with the apex of the central lobe prominent; first joint of antennæ considerably shorter than second; rostrum with the first joint slightly passing base of head; pronotum shorter than breadth at base, the lateral margins obliquely rounded, faintly transversely impressed a little behind middle, the basal pale area somewhat coarsely punctate, the posterior angles margined with piceous, the posterior margin moderately concavely sinuate; scutellum sparingly punctate, more strongly punctate along the lateral margins; clavus longitudinally punctate; corium more irregularly punctate; membrane slightly passing the abdominal apex; anterior femora obtusely spined beneath.

Length $9\frac{1}{2}$ millim.

Hab. Burma; Bhamo.

Genus EREMOCORIS.

Eremocoris, *Fieb. Eur. Hem.* pp. 49 & 187 (1861); *Stål, Ofv. Vet.-Ak. Förh.* 1872, no. 7, p. 60; *id. En. Hem.* iv, p. 164 (1874); *Horv. Rev. d'Ent.* ii, p. 1 (1883).

Type, *E. erraticus*, Fabr., a Palæarctic species.

Distribution. Nearctic and Palæarctic Regions; apparently in this fauna confined to N.W. India.

This genus is allied to *Scolopostethus* (vol. ii, p. 92) from which (using Stål's differential diagnosis) it is separated by having the first joint of the antennæ by more than half its length passing the apex of the head; head long, more acute, the space between the eyes and antennæ being subequal to the length of the eyes.

2860. **Eremocoris indicus**, *Bredd. Wien. ent. Zeit.* xxvi, p. 96 (1907).

♀. "Piceous black, upperside very dark, not shining; head, 'pronotum proprium,' and prominent shoulders only very slightly greasy-shining, deep black; the pronotal process pitch-black, narrow hind border reddish, side marginal keel in neighbourhood of pronotal impression narrowly rusty yellowish, black towards front; clavus and corium pitchy black, towards base passing

gradually to pitchy brown, costal area on basal third of corium dull rusty yellowish, a longitudinal spot between the end of the rimula and the vena brachialis black; membrane pitchy brown, apical halves somewhat suffused, a semicircular-shaped spot placed on outer half of membranal suture, shining white, a very suffused dull yellowish spot remote from the margin near the inner hind angle of membrane, the inner basal angle reddish; a round spot on each trochanter, the last three joints of rostrum, tarsi, posterior and intermediate tibiæ as well as inner side of pitchy brown front tibiæ, and apex of fourth joint of antennæ, rusty red to rusty yellow; body elongate, broadest just behind the middle of the corium; pronotum compared with the posterior part of the body short, distinctly broader than long, shoulder breadth 2·3 millim., length 1·7 millim. (measured under the microscope), almost rectangular, only slightly narrowed in front and even near the front margin comparatively broad, the sides nearly straight, not bayed, and before the middle of the 'pronotum proprium' more strongly rounded; 'pronotum proprium' very flatly arched, only very indistinctly bordered behind by a very shallow broad impression; tegmina not quite reaching the anal end of the dorsum; mesosternum with a rhomboid longitudinal impression, the borders of which are keel-shaped, raised, without tubercles or spiny elevations; antennæ rather slender, third joint a little longer than the fourth; rostrum slightly extending beyond the posterior coxæ; the strongly thickened anterior femora below (on the inner side of the broad furrow intended to receive the tibiæ) with a row of very small spines of nearly uniform height and a larger spine near the end of the femur; posterior tibiæ with only short, half-depressed, scarcely perceptible hairs and on upper side distalward with very short spinous bristles; first joint of posterior tarsi twice as long as remaining joints together." (*Breddin.*)

"Length 8·25 millim."

Hab. Kashmir (*fide Breddin*).

Described as allied to the Palæarctic *E. fenestratus*, Herr.-Sch., but with the pronotum much less narrowed in front, the unarmed middle pectus, the different hairs to posterior tibiæ, and the dark coloration of the upper surface.

2861. **Eremocoris naini**, *Dist. A. M. N. H.* (8) iii, p. 494 (1909).

Head, pronotum, and scutellum dull black; clavus and corium dull ochraceous, punctured and shaded with piceous, the costal margin narrowly ochraceous, a rather distinct piceous spot near middle of costal area, and a similar, rather more obscure spot on disk near apex of clavus; membrane pale piceous, the posterior margin and veins greyish-white, forming a looped linear spot near apical margin of corium; body beneath and femora black; tibiæ, tarsi, and rostrum (excluding basal joint) brownish ochraceous; antennæ black, stout, first joint passing apex of head, about sub-

equal in length to third joint, second joint considerably longer than either first or third, fourth joint mutilated in typical specimen; head very thickly punctate; pronotum with the anterior lobe thickly finely punctate, convex and longer than the posterior, which is flat and more coarsely punctate, the lateral margins sinuate at the transverse impression, anteriorly convexly rounded, the posterior angles a little thickened and slightly pitchy brown; corium somewhat coarsely punctate, the pale narrow costal margin impunctate except at the region of the piceous central spot; membrane scarcely passing the abdominal apex; rostrum reaching or slightly passing the posterior coxæ.

Length 5 millim.

Hab. Kumaon; Naini Tal, 6400 ft.

Genus MANATANUS.

Manatanus, *Dist. A. M. N. H.* (8) iii, p. 494 (1909).

Type, *M. montanus*, Dist.

Distribution. Northern India.

Head about as long as broad, subacutely narrowed anteriorly, somewhat longitudinally conically ridged above; antennæ with the first joint considerably extending beyond apex of head, second joint a little longest, third and fourth almost subequal in length or third only slightly longer than fourth; rostrum almost reaching the posterior coxæ, first joint about reaching base of head; pronotum about as long as broad, transversely impressed a little behind middle, the lateral margins almost straight but roundly narrowed anteriorly, basal margin concave before scutellum; hemelytra scarcely extending beyond middle of abdomen, membrane small; anterior femora incrassate and spined beneath near apices; scutellum a little elevated.

In my enumeration of the Oriental Lygæidæ I place this genus near *Lua*, Dist. (*cf.* p. 87).

2862. **Manatanus montanus,** *Dist. A. M. N. H.* (8) iii, p. 495 (1909).

Head, pronotum, and scutellum black; lateral margins of the anterior lobe of pronotum (broadened posteriorly) white; antennæ black; abdomen above and body beneath black; rostrum and legs ochraceous, basal joint of rostrum, anterior femora (excluding apices), more than apical halves of intermediate and posterior femora (excluding apices), and the tibiæ more or less black or piceous; clavus pitchy-brown, corium greyish white or pale stramineous, two elongate black spots before middle and the apex broadly black; membrane narrow, whitish, sometimes divided by black into two large whitish spots.

Var.—Posterior pronotal lobe more pitchy brown than black;

first and second joints of antennæ pitchy brown or ochraceous; intermediate and posterior femora and all the tibiæ ochraceous.

Length $4\frac{1}{2}$ millim.

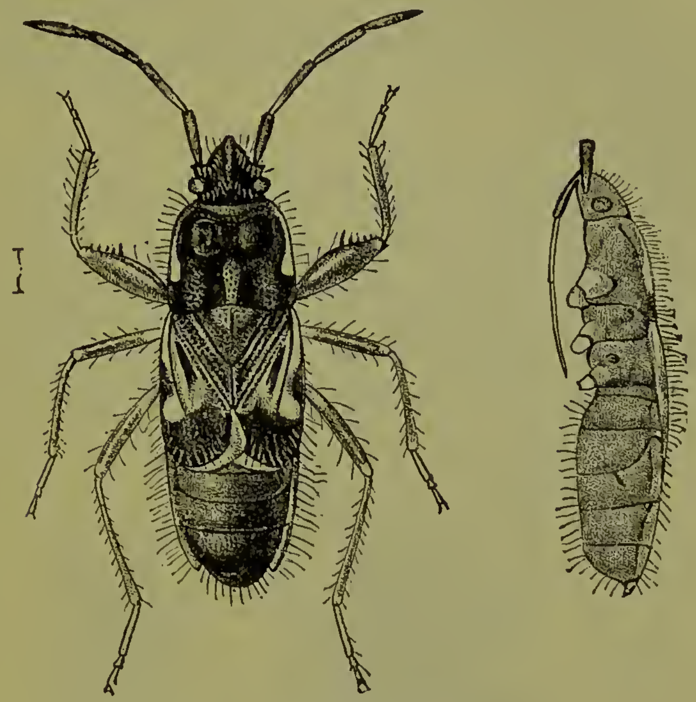

Fig. 41.—*Manatanus montanus.*

Hab. Simla Hills; Matiana (*Ind. Mus. & Coll. Dist.*); Kumaon; Naini Tal (*Ind. Mus. & Coll. Dist.*).

This species was found under stones.

Genus LUA.

Lua, *Dist. A. M. N. H.* (8) iii, p. 342 (1909).

Type, *L. tartarea*, Dist.

Distribution. Ceylon and Minikoi.

Head about as long as breadth between eyes, robust, deflected on each side, anteriorly subangularly produced; antennæ robust, pilose, first joint about or almost reaching apex of head, second joint a little longer than third, third and fourth subequal in length; rostrum reaching the intermediate coxæ, first joint about reaching base of head; pronotum nearly twice as broad at base as long, with a strongly punctate anterior collar, the basal area also strongly punctate, lateral margins carinate, convexly rounded towards the eyes, anterior margin truncate, posterior margin a little concave before scutellum; scutellum about as long as broad at base, where it is a little gibbous, laterally deflected on each side, somewhat coarsely punctate; hemelytra not reaching the abdominal apex, membrane very small and ill-defined, lateral margins a little widened beyond middle and then obliquely narrowed to apex,

clavus very coarsely longitudinally punctate; the disk sparingly coarsely punctate; body beneath and legs pilose; legs of moderate length, the femora moderately and uniformly thickened.

Allied to the Neotropical genus *Rhaptus*, Stål. Judging from the description, it also possesses some resemblance or affinity with *Lispochroa*, Bredd., but from this genus (?) is distinct by the shorter hemelytra.

2863. **Lua tartarea,** *Dist. A. M. N. H.* (8) iii, p. 343 (1909).

Body above and beneath shining black; antennæ and legs pale ochraceous; apical joint of antennæ and base of first joint piceous; femora (excluding apices) more or less pale castaneous; head between the eyes smooth and shining, remaining area punctate; pronotum with the basal area coarsely punctate, before which it is

Fig. 42.—*Lua tartarea.*

obscurely transversely impressed, between this impression and the anterior punctate collar the surface is smooth and shining; scutellum punctate, the basal area smooth and shining, between which and apex is an obscure central longitudinal line; corium punctate as described in generic diagnosis, an obscure pale brownish spot on each side of clavus near apex of scutellum and a similar subcostal spot on corium a little beyond base; membrane short, indistinct, dull brownish ochraceous, not reaching apex of abdomen; sternum irregularly punctate beneath, as shown in figure.

Length 3 millim.

Hab. Ceylon; Nalanda (*Green*); Minikoi (*Gardiner*).

In the Minikoi specimens the spots to the corium are much brighter than in the Ceylonese type, and the extreme lateral margins to the pronotum (sometimes) and the posterior lateral pronotal angles (frequently) are ochraceous.

Genus LISPOCHROA.

Lispochroa, *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 215.

Type, *L. blandula*, Bredd.

Distribution. Ceylon.

"Body small, above bare, shining; head distinctly shorter than pronotum, the front arched downwards, punctured, including the comparatively small eyes, little more than half as broad as the pronotum between the shoulders; antennæ hairy, moderately long, first joint not or scarcely passing beyond the clypeus, second and third about equally long, fourth rather longer than third; pronotum strongly transversely trapezoidal, nearly twice as broad as long, with rounded sides strongly narrowed towards the front, in front narrower than the head with the eyes, transverse impression wanting, the front half strongly convex in the middle; the front marginal area, which is separated off like a collar by an oblique impression on each side, and also the hinder half, rather strongly and thickly, anyhow very distinctly, punctate; side marginal keel sharpened and distinct but narrow, hind border almost truncated; scutellum not longer than broad, distinctly punctured, the lateral borders with a row of punctures, with an unpunctured submarginal stripe on inner side; clavus with three distinct rows of punctures; corium distinctly punctured, the cubital vein elevated and approximated to the rimula which slightly curves away internally and is separated from it by a fine row of punctures; costal area in basal third linear, then widened, rather broad, separated off from cubital by a thick row of punctures, behind the middle with an impressed longitudinal row of punctures, otherwise unpunctured; membrane with a crooked puckered transverse furrow at the base and with free veins, not extending beyond the anus; first joint of rostrum scarcely passing base of head; legs short, femora unarmed, tibiæ set with stiff bristles, basal joint of hind tarsi little longer than the two other joints together; underside shining, abdomen beneath sparingly punctured, on the basal outer margin with a long narrow marginal appendage [emanating from the first abdominal sternite]; of the stigmata three and four are very close to the marginal appendage but still stand in the sternites; the incision between sternites 2–3 indicated by a short sutural transverse line, that between sternites 4–5 extremely weak, without sutural sculpture and without sutural thickening, laterally strongly bent towards the front, the incision between sternites 6–7 forming a distinct suture, sides of fifth abdominal sternite with three small glandular spots (Div. *Lethæaria*, Stål); dorsal incisions almost straight and complete, the hinder at least strongly and finely sutured; fourth tergite remarkably short, almost only one-third as long as fifth, laterally rather narrowed, outwardly again expanded; ♀ ano-genital apparatus rather sunk in, the seventh abdominal sternite long at sides; in middle very

short, almost linear.—This genus perhaps belongs near to *Lispolophus*, Bergr. (*Androgeus*, Stål), which I do not know, but differs in the strong punctuation of the pronotum." (*Breddin.*)

2864. **Lispochroa blandula,** *Bredd. Deutsch. ent. Zeitschr.* 1907, p. 216, figs. 7 & 8.

"Shining black, the narrow lateral margin of the pronotum, including the shoulder humps, and the tegmina pale rusty yellow, the punctuation of the latter, a dash on middle of clavus, as well as a washed-out large irregular suffusion in the inner angle of the corium, which includes a paler nucleus, pitchy brown; membrane quite pale smoky-grey, base and veins pure hyaline; femora black, turning into pale rusty brown at the end; tibiæ, tarsi, and antennæ pale rusty yellow, the terminal joint of the latter (exclusive of basal fourth) brownish; rostrum pitchy black; end of abdomen frequently pitchy brownish; on marginal keel of pronotum a long perpendicular yellowish bristle." (*Breddin.*)

"Length 2½ to 3 millim."

Hab. Ceylon; Anuradhapura, Kanthaley (*fide Breddin*).

This genus and species cannot be identified with any Ceylon species with which I am acquainted. Breddin compared it with both the genera *Lispolophus* and *Diniella* and was apparently uncertain of its proper location.

Genus **ATKINSONIANUS.**

(To follow *Abdolominus*, Vol. II, p. 90.)

Atkinsonianus, *Dist. A. M. N. H.* (8) iii, p. 343 (1909).

Type, *A. reticulatus*, Dist.

Distribution. Sikhim.

Head about as long as broad at base, subangularly produced and narrowed before the insertion of the antennæ; ocelli near eyes; antennæ with the first joint shorter than head, second joint longest, third and fourth subequal in length; rostrum reaching the intermediate coxæ, first joint not quite reaching base of head, eyes not quite reaching the anterior angles of the pronotum; pronotum somewhat flat, broader than long, a little narrowed anteriorly, with a very slight or subobsolete transverse impression near middle, a short longitudinal ridge near the posterior lateral angles, the lateral margins very narrowly ampliate and very slightly sinuate, rounded at anterior angles, anterior margin truncate, posterior margin moderately concavely sinuate; scutellum about as long as broad, not impressed; corium laterally convexly rounded and considerably more extended than the margins of the pronotum; membrane not reaching the abdominal apex, with strong reticulate markings giving the appearance of reticulate venation; legs simple.

Near *Abdolominus*, Dist.

2865. **Atkinsonianus reticulatus**, *Dist. A. M. N. H.* (8) iii, p. 344 (1909).

Head, anterior area of pronotum, and the scutellum black or piceous, anterior and lateral margins, and posterior area of pronotum castaneous brown, on the subimpressed line dividing the dark and pale pronotal areas are three paler spots; clavus and corium pale ochraceous, thickly brownly punctate, in some places macularly punctate; membrane subhyaline, reticulately spotted

Fig. 43.—*Atkinsonianus reticulatus.*

and marked, and with prominent black spots at the basal margins; body beneath black or piceous, margins of the sternal segments, rostrum, coxæ, legs, and apical area of abdomen more or less castaneous; head with the apical area finely granulose, the base almost smooth; pronotum thickly finely punctate, with three more or less developed longitudinal grooves; scutellum thickly punctate; other characters as in generic diagnosis.

Length $5\frac{1}{2}$ millim.

Hab. Sikhim (*Atkinson Coll., Brit. Mus.*).

Genus GONSALVUS. (Vol. II, p. 93.)

2866. **Gonsalvus spinosus**, *Dist. A. M. N. H.* (8) iii, p. 344 (1909).

Head, pronotum, and scutellum black; apex and a more or less developed median line to central lobe of head ochraceous; antennæ piceous or black, basal half of second joint ochraceous, fourth joint greyishly pilose; body beneath and femora black or piceous; rostrum, tibiæ, and tarsi ochraceous or brownish ochraceous; corium dull ochraceous, clavus with longitudinal black lines, corium blackly punctate, the punctures more or less arranged in longitudinal series; membrane piceous, the veins much paler; antennæ with the first joint scarcely half the length of second, which is slender at base and slightly longer than third,

fourth slightly shorter than third; head impunctate, the ocelli at base and near eyes; pronotum with the anterior lobe tumid, impunctate, the lateral margins moderately convex and narrowing to head, posterior lobe sparingly coarsely punctate; scutellum sparingly finely punctate; anterior femora incrassate, finely spined beneath, the anterior tibiæ moderately curved and strongly inwardly ampliated at apices; membrane slightly passing the abdominal apex; rostrum reaching the posterior coxæ.

Length 6–7 millim.

Hab. Calcutta.

Differing from *G. typus*, Dist. (vol. ii, p. 93), by the spinous anterior femora and the more dilated apices of the anterior tibiæ, different colour of the legs, &c.

This species was taken at light in November 1907.

Family PYRRHOCORIDÆ. (Vol. II, p. 94.)

In this family some taxonomical corrections are made. Breddin has written on the Ceylonese Pyrrhocoridæ, and his paper thereon is fully referred to in the following pages, though most of his generic and specific suggestions cannot be accepted by the present writer.

Subfamily LARGINÆ. (Vol. II, p. 94.)

Genus **RHODOCLIA.**

Rhodoclia, *Dist. Entomologist*, 1909, p. 58.

Type, *R. convictionis*, Dist.

Distribution. At present only recorded from the Nilgiri Hills.

Head broad and convex, a little more anteriorly produced in male than in female, the postocular longer than the anteocular area, strongly constricted at base, slightly longitudinally incised on centre of disk, the apex subangularly produced in front of the insertion of the antennæ, eyes of moderate size and rounded; antennæ long, longer than the body, first joint longer than either the second or third which are subequal in length, fourth longest, moderately thickened and a little curved; rostrum passing the intermediate coxæ, first joint thickened and about reaching eyes, second longest; pronotum short, armed with a long horizontal or slightly backwardly directed slender spine on each side; hemelytra more or less rudimentary, more developed in the male than in the female; abdomen short and broad, pedunculate at base; legs long and slender, basal and apical joints of tarsi about equally long, tibiæ distinctly longer than the femora.

When I first described this genus it was from a few rather

badly preserved spirit specimens, but Mr. Pocock who placed them in my hands desired an identification for reference in a paper he was preparing on some mimicking insects. On this imperfect material I considered the taxonomical location to be with the Capsidæ. Subsequently, however, he gave me more material (from which the figures have been produced), and I now consider that the genus is to be placed in the *Pyrrhocoridæ*, allied to the Ethiopian genera *Myrmoplasta*, Gerst., and *Megapetus*, Dist.

2867. **Rhodoclia convictionis**, *Dist. Entomologist,* 1909, p. 59.

Head, pronotum, scutellum, and hemelytra piceous-brown; head with a pale ochraceous line extending centrally and perpendicularly for a short distance from base, and then curved and

Fig. 44.—*Rhodoclia convictionis.*

diverging on each side to the anterior margins of eyes; scutellum with a central pale longitudinal line; abdomen greyish ochraceous; head beneath, sternum, rostrum, and legs pale brownish ochraceous; the pedunculate base of abdomen centrally piceous, with the lateral margins greyish; legs and antennæ thinly spinously hirsute, the head also margined with pale long hairs.

Length, ♂ 6 to 8, ♀ $5\frac{1}{2}$ to 6 millim.

Hab. Nilgiri Hills; Barwood Estate (*H. Leslie Andrews*).

IPHITA GRANDIS. (Vol. II, p. 97.)

Physopelta grandis, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 295.

Under the generic name of *Physopelta* Breddin (*supra*) has recorded this species from Nalanda in Ceylon. We had previously only received it from Peradeniya.

Genus **ANTILOCHUS**. (Vol. II, p. 100.)

ANTILOCHUS COQUEBERTI. (Vol. II, p. 101.)

Antilochus amorosus, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 296.

Under the above name Breddin appears to have described a simple variety of the widely distributed *A. coqueberti*, Fabr.

ANTILOCHUS LINEATIPES. (Vol. II, p. 102.)

Antilochus lineaticeps, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 297.

Add: *Hab.* Ceylon; Nalanda (*fide Breddin*).

Genus **ECTATOPS**. (Vol. II, p. 102.)

2868. **Ectatops signoreti**, sp. n.

Sanguineous; eyes, pronotum, membrane, head beneath (excluding lateral margins), rostrum, sternum and legs black; antennæ with the first joint black, sanguineous at base, about as long as head but extending considerably beyond its apex, remaining joints mutilated in typical specimen; head with an arcuate black line near basal margin; pronotum dull opaque black, transversely impressed before middle, the central lobe convexly raised, with a transverse curved line of punctures before anterior margin; scutellum with the apex brighter sanguineous; corium and clavus somewhat thickly finely punctate; rostrum reaching middle of basal segment of abdomen; anterior femora shortly spined beneath near apex.

Length 14½ millim.

Hab. Silhet (*Coll. Signoret, Vienna Museum*).

Allied to *E. ophthalmica*, Burm. (vol. ii, p. 104).

Genus **EUSCOPUS**. (Vol. II, p. 105.)

2869. **Euscopus albatus,** *Dist. A. M. N. H.* (8) iii, p. 496 (1909).

Body and hemelytra pitchy brown; membrane ochraceous brown; lateral margins of the pronotum and corium, and a short broad basal subcostal fascia to corium, ochraceous; an irregular transverse fascia before apex of corium white with dark punctures; abdomen beneath more or less cretaceously tomentose, the stigmata black; legs brownish ochraceous; antennæ with the fourth joint

piceous, its base pale stramineous, first joint almost as long as the second and third together, second and fourth subequal in length, each longer than third; head finely granulose and with a slight

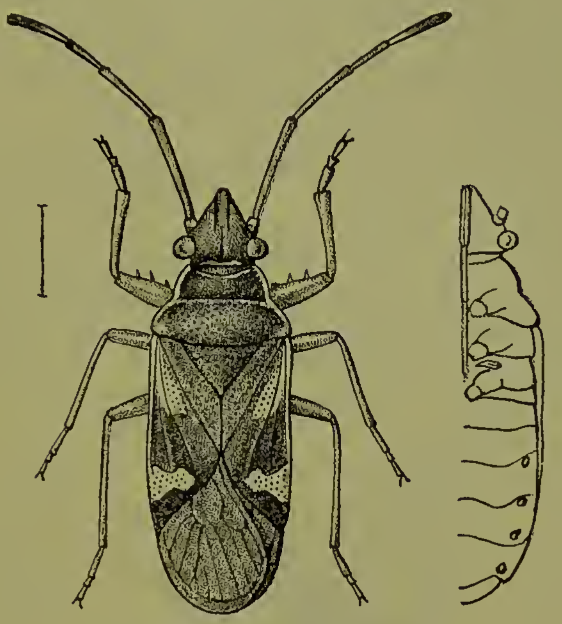

Fig. 45.—*Euscopus albatus.*

central longitudinal ridge; posterior pronotal lobe distinctly punctate, the lateral margins strongly sinuate, the transverse impression dividing the lobes profound, the anterior lobe a little raised and almost smooth; scutellum and corium somewhat thickly punctate; rostrum almost reaching the posterior coxæ; anterior femora strongly spined beneath.

Length 8½ millim.

Hab. Bombay (*Dixon*).

Euscopus indecorus. (Vol. II, p. 106.)

Euscopus indecorus, *var.* stigmaticus, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 297.

Breddin appears to have given a varietal name to the Ceylonese examples of this species, a course apparently unnecessary.

Genus ABULFEDA.

Abulfeda, *Dist. A. M. N. H.* (8) iii, p. 495 (1909).

Type *A. punctatus*, Dist.

Distribution. Ceylon.

Head about as long as broad, anteriorly subangularly produced, the central lobe prominent; antennæ robust, basal joint longest, almost as long as second and third joints together; pronotum gradually narrowed anteriorly, the lateral margins sinuate, transversely impressed before middle, anterior lobe raised and smooth,

posterior lobe very coarsely punctate, transversely punctate before anterior margin, the anterior lateral margins ridged; scutellum triangular, smooth, almost obsoletely punctate; clavus and corium thickly strongly punctate; membrane not quite reaching abdominal apex; rostrum reaching the intermediate coxæ, basal joint about, or almost, reaching base of head; anterior femora moderately thickened, shortly spined beneath.

This genus has the anterior area of pronotum completely circumscribed by continuous punctures and is allied to *Euscopus*.

2870. **Abulfeda punctatus**, *Dist. A. M. N. H.* (8) iii, p. 496 (1909).

Head dull pitchy-black; antennæ pitchy-black, the base of the fourth joint pale stramineous; pronotum shining black, the

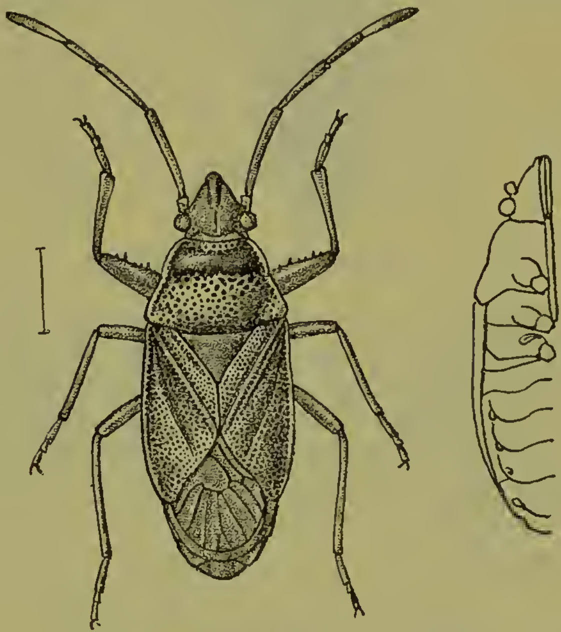

Fig. 46.—*Abulfeda punctatus.*

lateral margins very narrowly and the posterior lateral angles more prominently ochraceous; scutellum pitchy-black, opaque; corium black, somewhat shining; membrane pitchy-black; body beneath dull, greyish black, opaque, the stigmata black; rostrum and legs testaceous brown; structural characters as in generic diagnosis.

Length 9 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus ODONTOPUS. (Vol. II, p. 108.)

ODONTOPUS NIGRICORNIS. (Vol. II, p. 109.)

Vars. First joints of antennæ either red at base (as in *plana*, Walk.), or red with black apex (as in *bimaculata*, Walk).

Genus DINDYMUS. (Vol. II, p. 110.)

DINDYMUS SITA. (Vol. II, p. 113.)

Physopelta sita, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 296.

As a "typical *Physopelta*"! Breddin has recorded this species from the Ceylonese localities Anuradhapura and Nalanda.

Genus DERMATINUS. (Vol. II, p. 115.)

2871. **Dermatinus erebus**, *Dist.* (*Dermantinus* mispr.) *Ann. Soc. Ent. Belg.* liii, p. 360 (1909).

Black; finely, shortly, greyishly pilose; femora black, their bases and extreme apices, coxæ, trochanters, the tibiæ and the tarsi brownish ochraceous; antennæ black or piceous; apex of scutellum ochraceous; antennæ finely setose, with the second and fourth joints longest and subequal in length; rostrum reaching the posterior coxæ, basal joint castaneous and slightly passing base of head, remaining joints brownish ochraceous; pronotum very finely granulate and shortly greyishly pilose, the lateral margins shortly but distinctly reflexed, basal margin truncate, nearly straight; corium reaching the base of the fourth abdominal segment and with its apex truncate.

Length 5 millim.

Hab. United Provinces; Lucknow. Ceylon; Hambantula (*Fletcher*).

Allied to *D. lugubris*, Dist., but smaller in size, the basal margin of the pronotum nearly straight, apical margin of fourth abdominal segment centrally less acutely produced, etc.

Genus PYRRHOPEPLUS. (Vol. II, p. 115.)

PYRRHOPEPLUS POSTHUMUS to replace *P. pictus* (Vol. II, p. 116).

Pyrrhopeplus carduelis *var.* posthumus, *Horv. Term. Füz.* xv, p. 135 (1892).

Pyrrhopeplus posthumus, *Horv. Ann. Mus. Hung.* vii, p. 631 (1909).

Add: *Hab.* Tibet (*fide Horváth*).

As Horváth states he has previously described *T. pictus* as a variety of *P. carduelis*, Stål, and now recognises it as of specific rank, the varietal name *posthumus* must therefore replace that of *pictus*.

Genus ARMATILLUS. (Vol. IV, p. 432.)

ARMATILLUS VERRUCOSUS. (Vol. IV, p. 432.)

As I have already explained (A. M. N. H. (8) iii, p. 345, 1909), by an extraordinary taxonomical displacement, I included this genus and species in the *Pentatomidæ*. It is of course to be enumerated with the *Pyrrhocoridæ*.

Genus SCANTIUS. (Vol. II, p. 117.)

2872. **Scantius forsteri,** *Fabr.* (Cimex) *Spec. Ins.* ii, p. 368. 176 (1781); *Herr.-Sch.* (Pyrrhocoris) *Wanz. Ins.* viii, p. 102, f. 872 (1848); *Stål* (Scantius), *Hem. Afr.* iii, p. 10 (1865).
Cimex clavimanus, *Fabr. Spec. Ins.* ii, p. 368. 177 (1781); *Herr.-Sch.* (Pyrrhocoris) *Wanz. Ins.* viii, p. 102, f. 871 (1848).
Lygæus deustus, *Thunb. Hem. Rostr. Cap.* iv, p. 3 (1822).
Dermatinus centralis, *Sign. Ann. Soc. Ent. Fr.* 1860, p. 952.

Black; anterior and lateral margins and a central basal linear spot to pronotum, apex of scutellum, basal lateral margins of corium, apical lateral margins of abdomen above, lateral margins of sternum, and anterior margin of prosternum, sanguineous; first and second joints of antennæ longest and subequal in length, third joint shorter than fourth; membrane either rudimentary and reaching middle or apex of penultimate abdominal segment, or complete and almost reaching abdominal apex; pronotum strongly variable in shape, either transverse narrowing to head, with the transverse incision near middle (♀?), or narrower, with the lateral margins nearly straight and the transverse impression behind the middle (♂?); anterior femora strongly incrassate, spined beneath near apices.

Length 7 to 8 millim.

Hab. Bengal; Purneah Distr. (*Indian Mus. & Coll. Dist.*)—South Africa. Madagascar. Seychelle Islands.

This is a common species in South Africa and will probably be found along the whole East African coast. It is therefore possible that the *S. volucris*, Gerst. (vol. ii, p. 117) is only another form of the species and will have to be included with it.

Scantius obscurus. (Vol. II, p. 118.)

The type of this species is a ♀ specimen. I have since received

Fig. 47.—*Scantius obscurus*, ♂.

the other sex from Ceylon which I here figure. The structure of

the pronotum is a sexual character as described in the case of *S. forsteri*.

Add: *Hab.* Ceylon; Kaita (*Green*).

2873. **Scantius coriaceus**, sp. n.

coriaceus, *Sign. MS.*

Black; anterior and lateral margins of pronotum and lateral margins of sternum narrowly dull reddish; head above closely finely granulose; antennæ robust, first joint considerably passing apex of head, first and second joints subequal in length, third short, about half the length of second, fourth mutilated in typical specimen; pronotum transversely impressed near middle, the lateral margins nearly straight and finely longitudinally punctate, a curved transverse coriaceous line before anterior margin, the anterior lobe somewhat smooth and convex, the posterior lobe somewhat thickly punctate; scutellum, corium, and clavus obscurely pilose and sparingly coarsely punctate; membrane very short or rudimentary, the apex convexly rounded and reaching the base of the penultimate abdominal segment; anterior femora apically incrassate, finely spinous beneath near apex; rostrum imperfectly seen in carded typical specimen.

Length 7 millim.

Hab. "India" (*Vienna Museum*).

Genus **INDRA**.

Indra, *Kirk. & Edw. Wien. ent. Zeit.* xxi, p. 170 (1902).

Type *I. philarete*, Kirk. & Edw., from Java.

Distribution. Java and Ceylon.

"Distinguished from *Dermatinus*, *Scantius*, and *Pyrrhocoris* by the structure of the head and pronotum. Short, finely hairy; vertex with three longitudinal cavities as far as the antennal tubercles from there as far as the tip (between the tylus and the juga) with two cavities; antennal tubercles very conspicuous, on the front side pointed, spiny; bucculæ visible, roundish; head (with the stalkless eyes) as broad as front margin of pronotum; rostrum short, reaching to base of eyes; pronotum coarsely punctate ('the area circumscripta' excepted), a little transverse, lateral margins sinuous and only slightly reflexed; scutellum a little gibbous; hemelytra not as long as pronotum, posteriorly truncated; clavus and corium united; incisures of fourth and fifth (Stål's third and fourth) abdominal tergites curved near lateral margins." (*Kirkaldy & Edwards.*)

2874. **Indra glebula**, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 299.

"Unicolorous, dull pitchy black; above with short, upright dusty grey hairs; hemelytra entirely leathery, without membrane, coarsely and moderately thickly punctured, each hemelytron with a

flatly rounded terminal margin extending nearly to abdominal apex and leaving only a part of the seventh abdominal tergite uncovered, the costa which is protuberantly thickened in basal third and the marginal protuberances of the sides of the pronotum dirty piceous brown, two irregular small spots near terminal margin of hemelytra ochreous yellow; pronotum not quite twice as long as broad in the middle, lateral margin in middle shallowly but distinctly notched, before which it is rounded, the row of punctures bordering the cicatrisant area conspicuously coarser than the puncturation of the 'process,' the area lying in front of the cicatrisant swelling with only a few slight punctures; the third velvet-black glandular spot on ventral surface, counting from the front, considerably larger than the second; tarsi ochreous yellow; upper margin of genital plate in ♂ with two small, approximate, rectangular lappets separated by a small approximately rectangular incision." (*Breddin.*)

Length $4\frac{1}{2}$ millim.

Hab. Ceylon; Nalanda (*fide Breddin*).

I have not seen this species.

Genus **DYSDERCUS**. (Vol. II, p. 118.)

Dysdercus cingulatus. (Vol. II, p. 118.)

Dysdercus micropygus, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 299.
Dysdercus luteolus, *Bredd. tom. cit.* p. 300.

Of this well known species Breddin has recently (*supra*) from different specimens submitted the descriptions, as of new species, of no fewer than three different forms, two (*supra*) from Ceylon, and one from Borneo. The differences have been sought in the structural characters of the genital plates, but in my opinion, unsuccessfully.

Family TINGIDIDÆ. (Vol. II, p. 122.)

Since enumerating the species of this family as found in British India considerable fresh material has reached our hands and it is now possible to supplement the descriptive list as then given by about another two-thirds. Even then our knowledge of the Tingididæ comprised in this fauna is manifestly incomplete and we may expect considerable additions to be made to it.

Genus **CANTACADER**. (Vol. II, p. 123.)

Cantacader quinquecostatus. (Vol. II, p. 123).

I was previously only able to record this species from Ceylon; I have recently received it from Calcutta (taken at light), from Chandan Chowki, U. Provinces of India, and from Bhogaon, Purneah District, N. Bengal.

Genus **MALALA**, nov.

(To follow *Gonycentrum*, Vol. II, p. 125.)

Type, *M. bulliens*, Dist.

Distribution. At present only known from Ceylon.

Ovate; head produced in front of the insertion of the antennæ, a spine on each side between base of antennæ and apex of head, a spine behind base of antennæ, and two discal spines between the area of eyes and apex, beneath compressed, convexly laminate; antennæ with the first and second joints short, globose, second slightly shorter than first and not quite reaching apex of head, third joint long and slender, about three times as long as fourth; pronotum nearly twice as broad at base as centrally long, the anterior margin punctately impressed, the lateral margins areolate, the disk tricarinate, the lateral margins a little roundly sinuate, the anterior margin moderately concave, posterior margin truncate; scutellum about as broad as long, strongly centrally longitudinally carinate, the lateral margins straightly oblique; elytra considerably longer than the abdomen, the margins moderately rounded, the discoidal area granulose, subcostal and costal areas areolate, the costal more prominently areolate and, except at apex, a little wider than the subcostal; legs moderate in size and length.

2875. **Malala bulliens**, sp. n.

Head piceous, beneath laminately compressed and areolate; antennæ with the first, second and fourth joints piceous, third ochraceous; pronotum piceous, the lateral margins biareolate, the

Fig. 48.—*Malala bulliens*.

interior of the areolets whitish; anterior margin whitish with a series of punctate impressions; scutellum pale brownish ochraceous; elytra with the discoidal areas fuscous brown, the subcostal and costal areas palely fuscously areolate, the interior of the

areolets whitish; head and abdomen beneath piceous, the sternum ochraceous; legs with the femora piceous, the tibiæ and tarsi ochraceous; anterior margin of prosternum whitish with a series of dark punctate impressions; structural characters as in generic diagnosis.

Length $2\frac{1}{2}$ millim.

Hab. Ceylon; Peradeniya (*E. E. Green*).

Swept from short grass (*Green*).

Genus PHATNOMA. (Vol. II, p. 126.)

2876. **Phatnoma costalis**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 113 (1909).

Pale brownish ochraceous, the lateral areas of the pronotum and the costal, subcostal, and sutural areas of the elytra greyish; a small linear black spot in the discoidal area and a similar spot near the apex of sutural area; body beneath and legs reddish brown; antennæ with the third joint very long, apical joint piceous at apex; pronotum tricarinate, the lateral areas greyish with the margins of the areolets brownish, the lateral margins ampliated

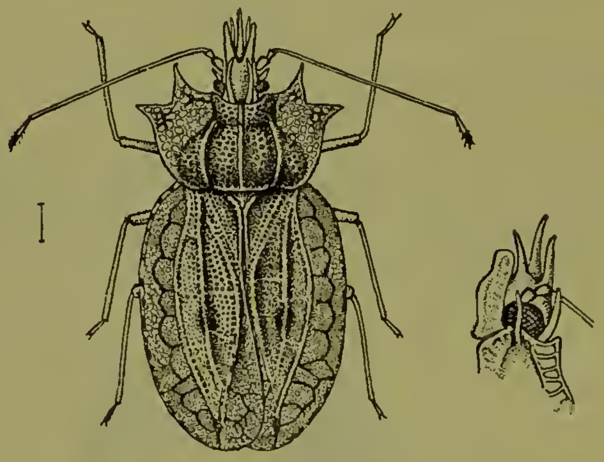

Fig. 49.—*Phatnoma costalis.*

and produced in two strong stout spines; costal area of the elytra with small brown margined areolets, a piceous undulated line near its inner margin and small piceous spots on its outer margin, the subcostal and discoidal areas with distinct pale transverse raised lines.

Length 4 millim.

Hab. Tenasserim; Myitta (*Doherty*).

Allied to *P. laciniata*, Fieb. (vol. ii, p. 126), from which it differs in the longer antennæ, the more porrectly spinous head, the differently carinated pronotum, and above all by the very distinct costal area of the elytra.

Genus ABDASTARTUS, nov.

Type, *A. tyrianus*, Dist.

Distibution. At present only received from Bengal.

Head broad, large, subquadrate, two central slightly curved longitudinal ridges, the apices of which slightly project in front as short spines, two long porrect spines between the basal joints of the antennæ, and a short curved spine on each side slightly behind and above the insertion of each antenna; antennæ with the first and second joints moderately thickened, first a little longer than second, remaining joints mutilated in specimens now before me; pronotum large, without an anterior hood, centrally moderately tranversely gibbously raised and completely covering scutellum, the anterior lateral margins laminately carinate, the disk tricarinate, the central carination straight and continuous, the lateral carinations shorter, a little curved, not reaching the anterior margin; elytra long, narrow, the costal margin sinuately waved, narrowest at base and gradually widened towards apex, the apical margin rounded, the discoidal area short, broad, subovate, narrowed anteriorly and posteriorly, the subcostal area a little broader than the costal area, the sutural area large and occupying more than half of the elytra, the costal area complete, opaque, remaining areas areolate; the areolets of the subcostal area small, those of the discoidal area larger, and those of the sutural area largest; legs moderately long and slender.

This description is based on several specimens kindly sent me by Mr. Maxwell Lefroy, but which unfortunately became more or less mutilated in transit, the antennæ in all being deficient beyond the first and second joints. It thus becomes difficult to locate the genus precisely in the method pursued in this Indian enumeration, though it is probable that in placing it after *Phatnoma* no considerable error will have been committed.

2877. **Abdastartus tyrianus**, sp. n.

Head pitchy brown, the spines stramineous; first and second joints of antennæ stramineous (remainder mutilated in specimens now before me); pronotum castaneous brown, the anterior and posterior areas piceous, the carinations stramineous; body beneath dull ochraceous brown, the legs and laminate process on underside of head stramineous; elytra dull pale brownish, semihyaline, areolate, the margins of the areolets piceous, the costal area stramineous with large black spots, the sutural area with obscure greyish white spots towards the apex; wings hyaline, the veins piceous, the apical area fuscous; anterior area of pronotum with three transverse ridges, the longitudinal carinations almost straight, the sublateral carinations commencing at the lower transverse

ridge, the central carination continuous from base to apex, the disk punctate, the posterior area granulose, the anterior lateral margins

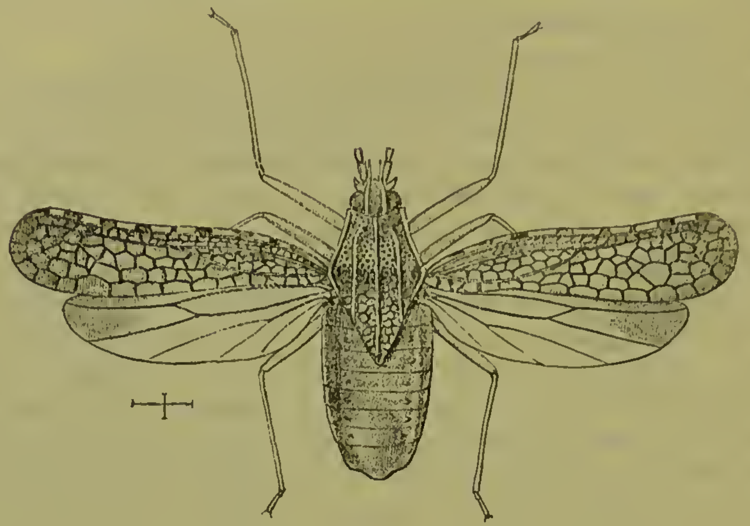

Fig. 50.—*Abdastartus tyrianus.*

stramineous and laminately carinate; apices of the tarsi blackish; abdomen above dull pale brownish.

Length excl. elytra 3 millim.; exp. elytra $5\frac{1}{2}$ millim.

Hab. Bengal; Pusa (*Lefroy*).

Genus **RECAREDUS.**

Recaredus, *Dist. Ann. Soc. Ent. Belg.* liii, p. 361 (1909).

Type, *R. rex*, Dist.

Distribution. At present only known from Bengal.

Head distinctly produced and deflected between the bases of the antennæ, and also with a distinct lateral curved robust spine between the antennæ and eyes, basal margin moderately concave; eyes transversely rounded; antennæ robust and pilose, the two basal joints short and robust, second shorter than first, third about twice as long as fourth; rostrum extending slightly beyond the posterior coxæ; pronotum with a small vesicle or hood which does not extend beyond base of head, and is convex and areolate, lateral pronotal margins strongly convex and bi-areolate, the disk with three central longitudinal carinations, the central one straight, the lateral ones slightly curved, the posterior margin centrally subangularly sinuate: scutellum exposed, subtriangular, areolate, centrally longitudinally strongly ridged; elytra with the lateral margins nearly straight, subparallel, convexly rounded at apices, costal area bi-areolate, discoidal and subcostal areas thickly but somewhat smally areolate; sutural area with the areolets as large as those on costal area; legs slender.

This genus, apart from the structure of the head, has a considerable resemblance to *Acalypta*, Westw., a Palæarctic genus; in this Indian enumeration it may be placed after *Phatnoma* and probably requires a divisional separation.

2878. **Recaredus rex**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 361 (1909).

Pale fuscous brown, the interior of the areolets on pronotal vesicle, lateral pronotal margins, scutellum, and costal and sutural areas of the elytra, greyish white; eyes and antennæ piceous, the

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Fig. 51.—*Recaredus rex.*

latter thickly, strongly and brownly pilose; body beneath and legs castaneous; elytra longly passing the abdominal apex; other structural characters as in generic diagnosis.

Length 3 millim.

Hab. W. Bengal; Paresnath, 4000 to 4400 feet (*Annandale, Ind. Mus.*).

Dr. Annandale discovered a single specimen of this interesting genus and species.

Genus COMPSEUTA.

(To follow *Eteoneus*, Vol. II, p. 129.)

Monanthia, subgen. Compseuta, *Stål, En. Hem.* iii, p. 133 (1873).
Compseuta, *Dist. Tr. S. Afric. Philos. Soc.* xiv, p. 433 (1904).

Type, *C. ornatella*, Stål, a South African species.

Distribution. Ethiopian and Oriental Regions.

Antennæ slender, pilose, first and second joints short, incrassate, second a little shorter than first, third very long, fourth about as long as first and second together; head short, transverse; eyes not separated from anterior margin of pronotum; pronotum with the anterior margin truncate, the anterior angles shortly angulate or spinous, somewhat broadly roundly laterally ampliate, longitudinally tricarinate, the central carination procurrent and

straight, the lateral carinations sinuate and not reaching the anterior margin, before which the surface is shortly transversely foveately depressed on each side of the central carination; elytra with the costal area ampliated a little behind middle, the subcostal area narrow and very strongly sinuate, all the areolets somewhat large and well defined; pronotum without an anterior vesicle or hood.

Allied to *Eteoneus*, Dist. (vol. ii, p. 129), but differing by the less exserted head, the eyes not separated from the anterior margin of the pronotum, shorter apical joint of antennæ, tricarinate pronotum, and narrower and more irregular costal area to the hemelytra.

2879. **Compseuta lefroyi,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 113 (1909).

Head black, antennæ ochraceous with the apical joint (excluding base) piceous; pronotum with the anterior area (excluding anterior and lateral margins and the central carination) castaneous, posteriorly black, the disk ochraceous, darkly punctate, the lateral

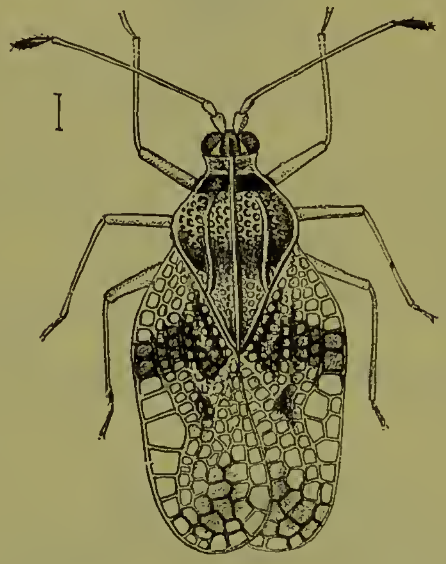

Fig. 52.—*Compseuta lefroyi.*

areas more or less shaded with castaneous; elytra pale ochraceous, the margins of the areolets brownish and with a brownish suffusion near apex of sutural area, an irregular transverse pitchy-brown fascia before middle which is considerably and elongately enlarged on the discoidal area and is usually followed by a small spot of the same colour at base of sutural area; body beneath black; the legs, anterior margin of prosternum, and coxal spots ochraceous.

Length $3\frac{1}{2}$ millim.

Hab. Bengal; Pusa (*Lefroy*).

Genus **CADMILOS.** (To follow *Galeatus,* Vol. II, p. 131.)

Cadmilos, *Dist. Ann. Soc. Ent. Belg.* liii, p. 113 (1909).

Type, *C. retiarius*, Dist.

Distribution. At present only received from the Punjab.

Pronotum with the lateral margins strongly and laminately produced, a little directed upwardly, the areolets large, subquadrate, and in single series, the anterior vesicle or hood large, somewhat oblong, with large areolets, convexly raised and almost completely covering head, which has a curved spine on each side near eyes and two porrect spines in front; antennæ with the first and second joints short, incrassate, first longer than second, third very long, slender, hirsute, fourth longer than first and second together, finely hirsute, its apex distinctly thickened; behind the anterior vesicle or hood the disk of the pronotum is flattened and subangularly dilated on each side, centrally acutely carinate, its posterior area areolate; elytra hyaline, the areolets large and transverse, the costal area dilated, abruptly concavely truncate at base, widened posteriorly, the subcostal area narrow, the discoidal area short and broad with the areolets large and more irregular in shape, apices of the sutural areas broadly rounded; legs somewhat long and slender, the femora slightly thickened.

Allied to *Galeatus* by the single areolets to the dilated pronotal marginal areas, and principally differing from that genus by the structure of the pronotum and the basally concavely-truncate costal areas of the elytra.

2880. **Cadmilos retiarius,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 114 (1909).

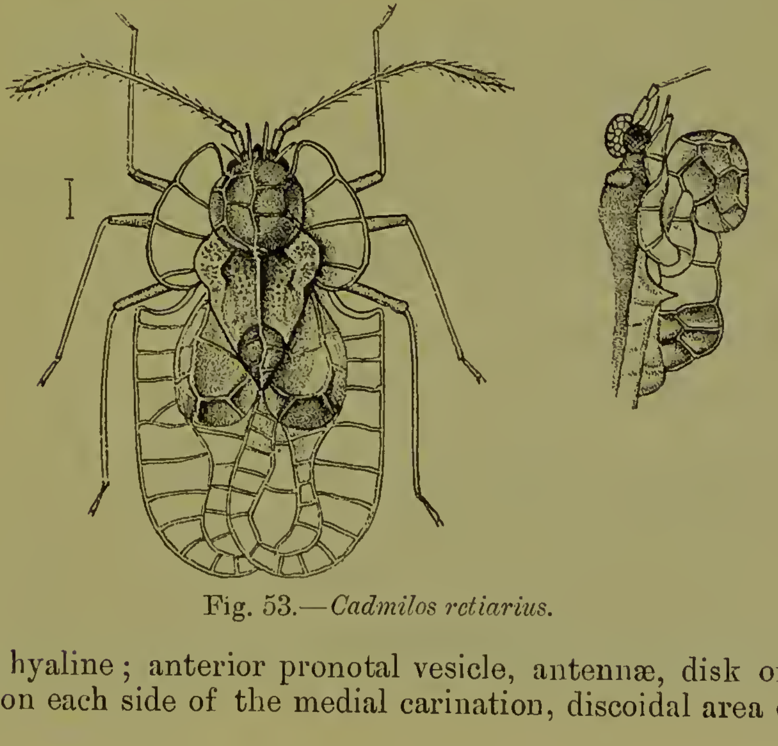

Fig. 53.—*Cadmilos retiarius.*

Pale hyaline; anterior pronotal vesicle, antennæ, disk of pronotum on each side of the medial carination, discoidal area of the

elytra (reflecting the dark abdomen beneath), and the legs more or less brownish ochraceous; body beneath black; antennæ with the third and the base of the fourth joint paler and more ochraceous in hue; disk of pronotum more fuscous than brownish ochraceous, the margins and the central carinations greyish white, the disk and lateral marginal areas more or less coarsely punctate; subcostal area of elytra with a slight brownish suffusion near apex of discoidal area; apices of femora slightly infuscate.

Length $3\frac{3}{4}$ millim.

Hab. Punjab; Lahore (*Ind. Mus. & Coll. Dist.*).

"Common on chrysanthemums" (*Annandale*).

Genus **STEPHANITIS**, to replace **Cadamustus**. (Vol. II, p. 132.)

Stephanitis, *Stål, En. Hem.* iii, pp. 119 & 123 (1873); *id. Öfv. Vet.-Ak. Förh.* 1874, p. 53; *Horv. Ent. Month. Mag.* 1906, p. 34.
Cadamustus, *Dist. Ann. Soc. Ent. Belg.* xlvii, p. 47 (1903).
Mœcenas, *Kirk. Entomologist,* 1904, p. 280.

I had followed Champion who had (Trans. Ent. Soc. Lond. 1898, p. 58) fixed the type of *Stephanitis* as the Neotropical species *S. mitrata*, Stål, which caused me to propose the genus *Cadamustus* for the Indian species. Subsequently Kirkaldy, for similar reasons, proposed a genus *Mœcenas* for a similar purpose, as regards two Palæarctic species. Since then Horváth has shown that Stål had restricted the genus to the Palæarctic species, and that a new genus was required for the Neotropical ones, thus leaving *Stephanitis* available for the Palæarctic and Oriental representatives.

Stephanitis typicus.

Cadamustus typicus, *Dist.* (Vol. II, p. 132.)

Recently received from Calcutta, where it is found on the leaves of the "Plantain" (*Musa*).

Philippine Islands; Manilla (*Banks*).

Stephanitis suffusus.

Cadamustus suffusus, *Dist.* (Vol. II, p. 133.)

2881. **Stephanitis gallarum,** *Horv. Ent. Month. Mag.* 1906, p. 33.

"Anterior vesicle and marginal membrane of the pronotum and the elytra hyaline, whitely reticulate, moderately clothed with short erect griseous pile; head black, bucculæ white, almost everywhere equally high and projecting anteriorly a little beyond the apex of the tylus; antennæ flavo-testaceous, fourth joint black third joint about $2\frac{1}{3}$ longer than fourth; pronotum with the disk,

densely, finely punctate, fusco-castaneous, anteriorly black, the anterior vesicle oblong-ovate, a little elevated, scarcely extended before base of antennæ, the discal carinations straight, parallel, the median carination little elevated, with the anterior vesicle equally high, areolets uniseriate, the two lateral carinations very distinct, but not areolate, and extended forwards as far as an imaginary transverse line drawn through the posterior end of the anterior vesicle; marginal membrane broadly dilated, irregularly triseriately areolate, apically broadened, outwardly slightly arcuate, anteriorly obliquely truncate and moderately produced, apical external angle rounded; posterior process with the base black, apex hyaline, areolate; elytra much longer and broader than the abdomen, just before the middle a transverse subinterrupted fascia, before apex an oblique suffusion, near sutural margin an abbreviated stripe and behind the apex of the discoidal area a subtriangular spot, all these markings blackish fuscous and more or less confluent, discoidal vesicle a little elevated, costal membrane broad, base biseriately, afterwards triseriately, at costal sinus quadriseriately and before apex triseriately areolate; body beneath black, posterior edges of pectoral segments brown, anterior margin of the prosternum, sternal carina, and legs flavous-testaceous, apices of tarsi blackish." (*Horváth.*)

"Length ♂ & ♀ excl. elytr. 3; incl. elytr. $4\frac{1}{2}$ millim."

Hab. Bengal; Kurseong (*Haas, fide Horváth*).

"Differs from the other species of *Stephanitis* by the less developed pronotal hood and by the little elevated median carina of the pronotum, the two lateral carinæ being long and much produced forwards. Very common *on* the galls of *Machilus gamblei.*"

2882. **Stephanitis sordidus,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 114 (1909).

Pale sordidly hyaline; body beneath dark brownish; legs pale ochraceous; pronotal vesicle or hood elongate, completely covering head and projecting slightly beyond it; lateral pronotal dilated areas longer than broad but outwardly rounded, exhibiting four series of areolets; median pronotal carination raised, compressed, subconvex and areolate; elytra with the margins of the areolets pale brown.

From *S. gallarum*, Horv., this species is at once separated by the strongly developed pronotal hood; from *S. typicus*, Dist., by the less developed lateral pronotal areas and their smaller and less elongate outer areolets, the more distinct, somewhat smaller and more regular areolets of the costal margin, and the sordid and not pale hyaline coloration; from *S. suffusus*, Dist., it is to be distinguished by the absence of the dark fasciæ to the elytra, the less elevated and more elongated median carination to the pronotum, and also by the more evenly rounded and less produced pronotal lateral areas.

Length 3 millim.

Hab. Tenasserim; Mergui (*Coll. Dist.*).

Genus **DULINIUS**. (Vol. II, p. 133.)

Dulinius conchatus. (Vol. II, p. 133.)

I was previously only able to give the habitat of Ceylon for this species. Dr. Annandale has since sent me specimens which he collected at Balighai near Puri, Orissa, where it was found breeding on the underside of leaves of *Morinda* sp.

Genus **ILDEFONSUS**, nov.

Type, *I. provorsus*, Dist.

Distribution. Only known at present from the E. Himalayas.

Pronotal hood covering the head, globose, areolate; antennæ robust, longly pilose, first and second joints short, incrassate, almost subequal in length, third joint about twice as long as fourth, which is longer than first and second joints together; pronotum with the lateral margins laminately produced, areolate, reflexed and moderately concave, the disk tricarinate, apex entirely covering scutellum; head beneath with a central laminate, areolate process; elytra hyaline, much longer but not twice as long as the abdomen, arched and dilated from near base, the costal area wide, the subcostal area very narrow and distinct with the areolets much smaller than on other parts of the elytral surface; legs of moderate length and slender.

This genus by the character of the pronotal hood, which completely covers the head, is allied to the genera *Galeatus*, *Stephanitis*, and *Dulinius*, and in this enumeration may be placed as following the last named genus (vol. ii, p. 133); from all of them, however, it is to be distinguished by the very distinct but narrow subcostal area.

2883. **Ildefonsus provorsus**, sp. n.

Antennæ black, pilose; head beneath and body black; legs pitchy brown, tibiæ (excluding basal areas) more ochraceous brown; laminate process to head beneath, hyaline areolate, the margins of the areolets piceous; pronotal hood pale dull ochraceous, opaque, areolate, the margins of the areolets piceous; pronotum with the disk black, the three carinations pale brownish, the produced lateral margins hyaline, areolate, slightly suffused with fuscous, the margins of the areolets piceous; elytra hyaline, areolate, somewhat distinctly suffused with fuscous near base and less distinctly so on apical area, the margins of the areolets piceous, and the margins of the narrow subcostal area also of the same colour; the dilated lateral pronotal areas are moderately

concave, their anterior margins subtruncate, their outer margins moderately convex, a little subangulate behind middle; other structural characters as in generic diagnosis.

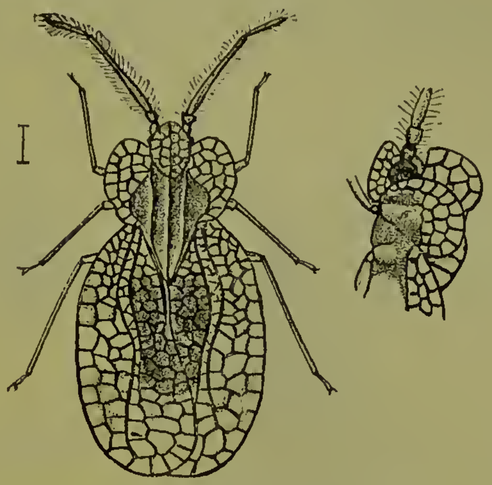

Fig. 54.—*Ildefonsus provorsus.*

Length incl. elytra $3\frac{1}{2}$ millim.
Hab. E. Himalayas; Ghoom, 7500 ft. (*Ind. Mus.*).

Genus **MOKANNA**, nov.

Type, *M. princeps*, Dist.
Distribution. Received from Trichinopoly.

Pronotal hood covering the head, elongate, narrowed anteriorly, areolate, centrally longitudinally carinate; antennæ slender, elongate, first joint about half the length of pronotal hood, second about half the length of first, third very long, as long as pronotum and hood together, fourth joint about as long as first and second together; pronotum with the lateral margins laminately produced, areolate, horizontal, anterior and lateral margins obliquely truncate, anterior angle subacute, posterior angle rounded, the disk centrally longitudinally carinate and with a short curved carinate line near each lateral margin of the anterior area which is convex, its apex triangular and covering the scutellum; apex of head beneath the pronotal hood with two distinct porrect spines; the elytra are twice as long as the abdomen, arched and dilated from near base, the costal area wide, hyaline, largely areolate, widened posteriorly, the subcostal area convex, narrow and opaque, the discoidal area short and broad, about half the length of costal area, opaque, areolate, apices of the sutural areas broadly rounded; legs somewhat long and slender, the femora slightly thickened; rostrum unseen in carded typical specimens.

2884. **Mokanna princeps**, sp. n.

Antennæ ochraceous, fourth joint (excluding base) black; head beneath and body black; legs pale ochraceous; pronotal hood ochraceous, the margins of the areolets a little darker, anterior convex disk of pronotum piceous, with the carinations, the posterior area and the dilated margins pale ochraceous, the margins of the

Fig. 55.—*Mokanna princeps*

areolets a little darker; elytra pale ochraceous hyaline, the margins of the areolets darker, the subcostal and discoidal areas piceous with the margins of the areolets paler and more ochraceous in hue, the areolets at the margins of the costal and sutural areas more distinctly transverse and slightly smaller in size; other structural characters as in generic diagnosis.

Length incl. elytra 4 millim.

Hab. Trichinopoly (*Dubreuil*).

My thanks are due to Dr. Montandon for kindly presenting me with two specimens of this species.

Genus **URENTIUS**. (Vol. II, p. 134.*)

2885. **Urentius olivaceus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 115 (1909).

Pale olivaceous; body beneath very dark olivaceous; antennæ black (apical joint mutilated in typical specimen); femora black with their apices ochraceous; tibiæ ochraceous with their apices black; tarsi black with their bases ochraceous; head with three long frontal spines; antennæ setose; pronotum with the anterior vesicle or hood almost covering head, its disk strongly irregularly

* Horváth (Ann. Mus. Hung. vii, p. 632, 1909), states that *Urentius* (vol. ii, p. 134) = *Ayrerus* (vol. ii, p. 140). As, however, the first named possesses a pronotal hood partly or almost covering the head, and *Ayrerus* has a totally uncovered head, I cannot accept the proposed correction.

carinate, enclosing two anterior and two lateral foveate areas, the lateral margins somewhat concavely sinuate and strongly spined; elytra nearly straight, very slightly obliquely narrowed posteriorly, with the discoidal areas finely granulate and moderately discally obliquely foveate, the sutural areas hyaline and with the areolets very distinct.

Length 3 millim.

Hab. Ceylon (*Staniforth Green*).

Allied to *U. echinus*, Dist., by the concavely sinuate lateral margins of the pronotum, but separated by the different colour of the body, elytra, legs and antennæ, the less posteriorly narrowed elytra, and by the more hyaline sutural areas to the same.

Mr. S. Green presented me with a single specimen of this species.

2886. **Urentius sentis**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 115 (1909).

Pale ochraceous, the areolets of the elytral costal areas hyaline; antennæ in the typical specimen described, mutilated; eyes carmine-red; body beneath blackish, the disk paler (imperfectly seen in carded specimen); head with three long frontal spines; pronotum with the anterior vesicle or hood almost covering head, its disk strongly irregularly carinate, enclosing two anterior and

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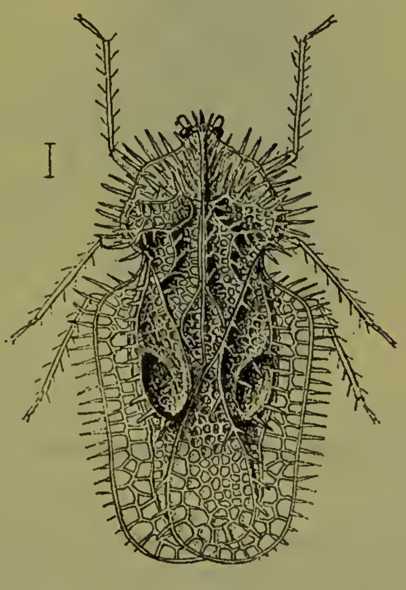

Fig. 56.— *Urentius sentis.*

two lateral foveate areas, the lateral margins somewhat convexly sinuate and strongly spined; elytra a little obliquely narrowed posteriorly, with the discoidal and sutural areas finely granulate their margins strongly spinous; each discoidal area with a large discal foveation the margins of which are prominently ridged.

Length 3 millim.

Hab. Bombay; Surat (*Coll. Dist.*).

Allied to *U. echinus*, Dist. (vol. ii, p. 134) but differing in the lateral margins of the pronotum which are more convexly sinuate, in *U. echinus* they are more concavely sinuate; the foveations to the discoidal areas are larger, more profound, and with their margins more prominently ridged.

2887. **Urentius euonymus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 116 (1909).

Above, with the antennæ and legs pale ochraceous, body beneath black; apical joint of antennæ a little darker than the other joints; eyes carmine-red; tarsal claws black; head with three long frontal spines; antennæ setose, the apical joint somewhat prominently globose; pronotum with the anterior vesicle or hood almost covering head, its disk strongly irregularly carinate,

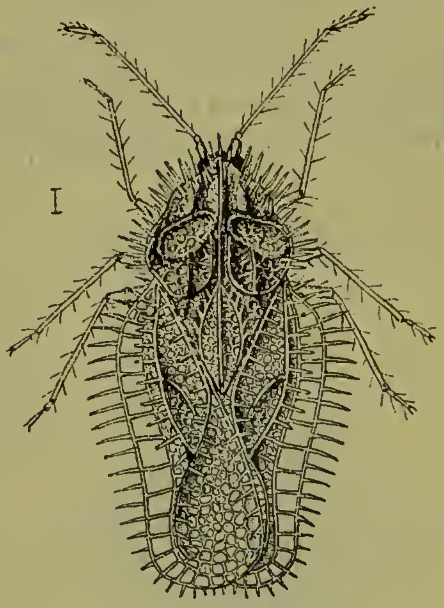

Fig. 57.—*Urentius euonymus.*

enclosing an anterior oblong foveation centrally carinately divided, and a posterior transverse foveation on each side of posterior lateral areas, the lateral margins posteriorly sinuate and strongly spinose; elytra obliquely narrowed to apex, the subcostal area more or less opaque.

Length 2 millim.

Hab. Ceylon; Batticaloa (*Green*).

This species differs from all others at present described in the genus by the opaque subcostal area, thus giving the appearance of

one instead of two lateral series of areolets; its smaller size also distinguishes it, as well as the structure of the pronotum.

Genus **PHYLLONTOCHILA**. (Vol. II, p. 135.)

PHYLLONTOCHILA RAVANA. (Vol. II, p. 136.)

This species was described and received from Ceylon. It has since been sent from Calcutta.

Genus **AMMIANUS**. (Vol. II, p. 136.)

Horváth (Ann. Mus. Hung. vii, p. 632, 1909) states that *Ammianus*=*Phyllontochila*, Fieb. The type of *Phyllontochila* is *P. ampliata*, Fieb., which the describer figured (Ent. Monogr. t. v, f. 10). The type of *Ammianus* is *A. erosus*, Fieb., also figured (t. vi, f. 5). If generic differences are sometimes strained, I think that most entomologists would agree that these two typical figures *cannot* represent the same genus. Horváth subsequently (Sjöstedt's Kilimandjaro-Meru Expedit. 12, p. 63, 1910) treats *Ammianus* as a distinct subgenus of Fieber's genus under the division of "Subg. *Phyllontochila*, s. str."; this latter course apparently disposes of his first contention, but I regret being unable to unravel this proposed arrangement.

Genus **BELENUS**.*

(To follow *Phyllontochila*, Vol. II, p. 135.)

Belenus, *Dist. Ann. Soc. Ent. Belg.* liii, p. 116 (1909).
Phyllontochila, *Stål, En. Hem.* iii, p. 128, Sect. aa (1873).
Sakuntala, *Horv.* (nec *Kirk.*) *Sjöstedt's Kilimandjaro-Meru Expedit.* 12, p. 62 (1910).

Type, *B. dentatus*, Fieb.
Distribution. British India; Borneo.

Differs from *Phyllontochila* by the strongly and widely dilated pronotum, the elytra behind the middle gradually not abruptly narrowed, the costal margin more obtusely rounded, the costal area occupying nearly half of the width of the elytra.

I only knew the *P. dentata*, Fieb., when previously enumerating the Tingididæ, by Fieber's figure. Since then I have procured

* Horváth (Ann. Mus. Hung. vii, p. 632, 1909), states that *Belenus*=*Sakuntala*, Kirk., the type of which is given as *S. ravana*, Kirk. This species under the genus *Phyllontochila* I have previously figured (vol. ii, p. 136, f. 99). I can only again refer to these figures and descriptions in reply to this proposed correction.

specimens from Calcutta and Borneo which enable me to propose

Fig. 58.—*Belenus dentatus.*

a new genus for it, as indicated by Stål in his sectional enumeration.

Belenus dentatus.

Phyllontochila dentata. (Vol. II, p. 136.)

Hab. Add : Calcutta (*Coll. Dist.*). Borneo ; Baram (*Coll. Dist.*).

2888. **Belenus angulatus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 116 (1909).

Head, pronotum (excluding lateral prolongations) and discoidal and subcostal areas of elytra greyish brown, opaque ; antennæ

Fig. 59.—*Belenus angulatus.*

brownish, the apical joint piceous ; eyes black, a greyish white line at their inner margins ; pronotum with the lateral produced areas hyaline, the margins of the areolets and a posterior transverse

streak greyish brown; elytra with the discoidal and subcostal areas with short transverse fuscous brown lines, the costal area hyaline with the margins of the areolets, a transverse fascia before middle and an oblique fascia near apex, fuscous brown; body beneath and legs brownish; pronotum with the hood compressed, wedge-shaped, covering base of head, the disk tricarinate, the central carination straight, extending from the vesicle to apex, the lateral carinations short and slightly curved, the apical margin greyish; the lateral produced areas broad, a little directed upwardly and with their apices distinctly triangularly spinous; elytra with the costal margin convex, the costal area a little widened posteriorly.

Length 4 millim.

Hab. Tenasserim; Myitta (*Doherty*).

Allied to *B. dentatus*, Fieb., but differing by the shape and triangularly spined apices of the pronotal lateral areas, the shorter lateral carinations to the pronotum, the more regular width and the more convex outer margin to the costal area of the elytra.

2889. **Belenus bengalensis,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 117 (1909).

Above somewhat uniformly fuscous brown, the produced lateral pronotal areas and costal and sutural areas to the elytra with the interior of the somewhat large areolets greyish white; antennæ fuscous brown, the apical joint mutilated in the two specimens now before me; elytra with an obscure transverse fuscous brown spot before middle and a more oblique and more obscure spot near apex, the margins of the discoidal and subcostal areas prominent and dark brown; body beneath dark fuscous brown; the legs with the femora fuscous brown and the tibiæ brownish ochraceous; the produced pronotal lateral areas resembling those of *B. angulatus* but with their apices a little less angularly spinous; pronotum very similarly tricarinate as in that species; elytra with the discoidal and subcostal areas densely covered with small areolets the interior of which are greyish white.

Length $4\frac{1}{2}$ millim.

Hab. Bengal; Muzaffarpur (*Ind. Mus. & Coll. Dist.*).

Resembling *B. angulatus*, Dist., but darker in hue and with the costal area of the elytra distinctly narrower than in that species, the lateral produced pronotal areas less prominently triangularly spinous.

Genus JANNÆUS.

(To follow *Celantia*, Vol. II, p. 137.)

Jannæus, *Dist. Ann. Soc. Ent. Belg.* liii, p. 118 (1909).

Type, *J. cuneatus*, Dist.

Distribution. At present only known from Bengal.

Head considerably covered by the pronotal vesicle or hood and with two frontal spines ; antennæ robust, spinulose, first and second joints robust, first short, only slightly projecting beyond head, second longer than first, third longest, fourth longer than first and second together ; pronotum with the anterior vesicle or hood strongly raised and compressed, the lateral areas strongly and a little upwardly produced, their anterior margins truncate, their lateral margins oblique, their apices obtusely acute, the disk strongly tricarinate; elytra with the discoidal area moderately short and broad, its margins strongly ridged, subcostal and costal areas somewhat narrow and almost equal in breadth, sutural area long and broad, its apical margin subtruncate.

Allied to the genus *Cœlantia* but differing by the relative lengths of the first and second joints of the antennæ, and the much shorter and more robust antennæ, the structure of the pronotum, etc.

2890. **Jannæus cuneatus,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 118 (1909).

Body above dull greyish ; upper margin of the vesicle or hood, apices of the produced lateral areas, a transversely oblique spot on costal margin before middle and which extends to the discoidal area,

Fig. 60.—*Jannæus cuneatus.*

and an obliquely curved fascia on each sutural area, fuscous brown ; margins of the pronotal lateral areas and the discal carinations, and margins of the discoidal area whitish ; body beneath and legs very pale brownish ochraceous ; apex of abdomen piceous ; antennæ very pale brownish ochraceous, longly spinulose ; margins of the lateral pronotal areas spinose, lateral pronotal carinations sinuate ; elytra with the discoidal area punctate, its margin

prominent and levigate, subcostal and costal areas hyaline with transverse areolets the margins of which are brownish, sutural areas with the areolets of different size, the smaller near base, the larger near apex; other structural characters as in generic diagnosis.

Length 4½ millim.

Hab. North Bengal (*Coll. Dist.*).

Genus **BREDENBACHIUS.** (Vol. II, p. 139.)

2891. **Bredenbachius consanguineus,** *Dist. Ann. Soc. Ent. Belg.* liii p. 118 (1909).

Head dark testaceous; antennæ ochraceous, the apical joint dark testaceous; pronotum dark testaceous, the anterior thirds of the lateral globose areas, the central longitudinal carinæ and the apical area stramineous, a central longitudinal stramineous spot at anterior margin; elytra stramineous, disk of discoidal area (excluding apex) infuscated, costal area with transverse fuscous linear spots, sutural area infuscate, the areolets piceous, pale at base and near apex; body beneath castaneous, margins of sternum and abdomen, and the legs ochraceous, the margins of the abdomen finely spotted with castaneous; pronotum with three central carinæ, the median one procurrent and straight, the two lateral carinæ commencing from inner margins of lateral globose areas and deflected towards posterior apical margins, thus giving the prolongation a scutellate appearance, the disk coarsely punctate, the lateral areas foveately reticulate; elytra reticulate, the areolets distinct, those on the costal membrane transversely quadrate.

Length 3 millim.

Hab. Tenasserim; Myitta (*Doherty*).

Allied to *B. pictus*, Dist. (vol. ii, p. 140) by the deflected lateral carinæ to the pronotum, but differing from that species in the more acute pronotal apex; the costal area is more darkly transversely spotted, the body is narrower and more elongate, the colour is different, and the central stramineous longitudinal spot at anterior margin of pronotum is distinct.

2892. **Bredenbachius delineatus,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 119 (1909).

Head black with griseous longitudinal lines; antennæ piceous brown, the apical joint piceous; pronotum black, its lateral and apical areas, and central longitudinal carinæ ochraceous, a large spot at anterior margin more testaceous; elytra pale ochraceous, the discoidal area and the basal halves of costal and subcostal areas more or less fuscous brown, sutural area ochraceous with the

interior of the cells fuscous brown; body beneath dull black, legs pale fuscous; pronotum with three central nearly straight carinæ, the central one procurrent, the two lateral carinæ commencing from inner margins of the lateral globose areas, the disk

Fig. 61.—*Bredenbachius delineatus.*

coarsely punctate, the lateral areas foveately reticulate; elytra reticulate, the areolets distinct, the costal area well defined and with numerous distinct transverse veins.

Length $4\frac{1}{2}$ millim.

Hab. Calcutta (*Ind. Mus. & Coll. Dist.*).

To be separated from *B. pictus* apart from minor differences, by the straight longitudinal carinæ to the pronotum.

2893. **Bredenbachius annandalei,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 119 (1909).

Head piceous, griseously tomentose, the inner margins of the eyes greyish; antennæ testaceous, the apical joint (excluding base) black; pronotum ochraceous with two small central transverse black spots on anterior area, situate one on each side of the central carination; elytra ochraceous, the discoidal area very slightly suffused with fuscous on its anterior inner margin, and some of the areolets on sutural area also fuscous, apices of discoidal and sutural areas and spots to costal area greyish white; head beneath and sternum ochraceous, the latter with some black discal spots; abdomen beneath piceous with lateral black segmental spots; legs testaceous, the tarsi black; pronotum with three nearly straight longitudinal carinæ arranged as in *B. delineatus*, the disk coarsely punctate, the lateral areas foveately reticulate; elytra reticulate,

the areolets distinct, those on the costal membrane transversely quadrate.

Length $4\frac{1}{2}$ millim.

Hab. Calcutta.

Allied to *B. delineatus* by the straight pronotal carinations, but easily separated by the distinct colour and markings, especially by the two black spots to the pronotum.

2894. **Bredenbachius humeralis**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 120 (1909).

Head above greyish white, the central lobe and spine in front of each eye very pale ochraceous; eyes black; antennæ with the first, second and fourth joints castaneous brown, third joint ochraceous; pronotum sordidly greyish, the lateral areas and coarse punctures between the longitudinal striations to its posterior area pale castaneous, on the greyish anterior area are two irregularly defined dark spots; elytra sordidly greyish, inner

Fig. 62.—*Bredenbachius humeralis.*

margins of the discoidal area, a central outer spot or suffusion to discoidal area extending through subcostal area, apex of discoidal area, and a small spot near upper apex of sutural area pale castaneous; abdomen beneath castaneous brown; sternum sordidly greyish; femora castaneous, the tibiæ and tarsi ochraceous, apices of the latter castaneous; head with the apex of the central lobe appearing as a short produced spine between the bases of the antennæ; pronotum with the anterior vesicle or hood short, compressed, the lateral areas gibbous, directed upwardly and a little outwardly, their areolets large with their margins very

prominent, the longitudinal carinations robust and strongly raised; elytral areolets somewhat small and regular in size and shape.

Length 3 millim.

Hab. United Provinces; Dhikala, Naini Tal (*Ind. Mus.*).

This species is to be principally distinguished by the gibbous lateral areas of the pronotum.

Genus ELASMOGNATHUS. (Vol. II, p. 141.)

2895. **Elasmognathus nepalensis,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 120 (1909).

Pitchy-black; antennæ and legs brownish ochraceous, antennæ with the basal joint and the apical joint (excluding extreme base), extreme apices of the tibiæ and the tarsi piceous black; costal area of the elytra greyish white with the margins of the areolets pitchy-black, and some similar markings on apical margin; lateral and apical margins of head a little paler in hue; pronotum with the lateral areas very longly, forwardly and a little upwardly produced, their apices broadened and subglobose with the areolets

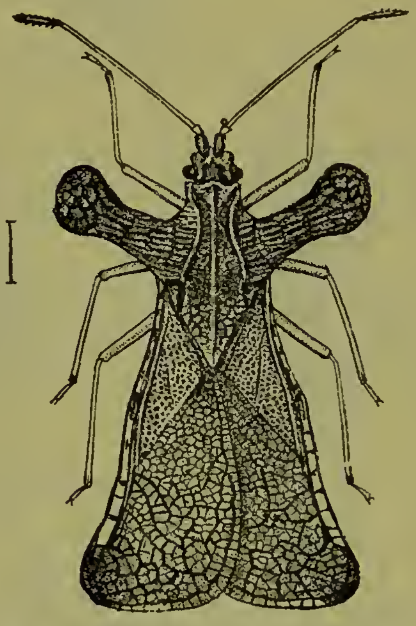

Fig. 63.—*Elasmognathus nepalensis.*

rounded, from thence to base the areolets are longitudinal, the disk tricarinate, the central carination straight, extending throughout its entire length, the lateral carinations curved, all the carinations, the anterior margin and the apex a little paler in hue; elytra broadened posteriorly, the sutural area very large and apically subtruncate, the costal margin sinuate, the discoidal and subcostal areas coarsely punctate, the areolets of the sutural area somewhat large and irregular in size.

Length 6 millim.

Hab. Nepal; Thamaspur (*Ind. Mus.*).

Genus TELEONEMIA. (Vol. II, p. 142.)

2896. **Teleonemia marginata**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 121 (1909).

Pale brownish ochraceous; apical joint of antennæ black, the first and second joints castaneous; eyes and two small spots between them, black; pronotum with the lateral areas paler and very coarsely darkly punctate; elytra with the apical half of costal area and apex of sutural area much paler in hue; body beneath and legs brownish ochraceous, sternum and head beneath greyishly tomentose; femora (excluding apices) pale castaneous;

Fig. 64.—*Teleonemia marginata.*

pronotum tricarinate, the central carination straight and procurrent, the lateral carinations a little bent inwardly, the lateral areas broad and coarsely punctate; elytra with the discoidal area coarsely punctate, the subcostal and costal areas more finely punctate, the sutural area with numerous strongly margined areolets.

Length 4 millim.

Hab. Assam; Margherita.

This species is to be distinguished by the broad or dilated, deeply punctured, lateral areas of the pronotum; it also differs from *T. assamensis*, Dist. (vol. ii, p. 143) by the narrower and more elongate pronotal vesicle or hood.

Genus MONANTHIA. (Vol. II, p. 144.)

MONANTHIA GLOBULIFERA, *Walk.* (Vol. II, p. 144.)

Monanthia (Cochlochila) bullita, *Stål, En. Hem.* iii, p. 133 (1873).
Cochlochila bullita, *Horv. Ann. Mus. Hung.* vii, p. 632 (1909).

Dr. Horváth has been able to compare the type of *M. bullita*,

Stål (described without a locality) with the figure given of Walker's species (vol. ii, p. 144, f. 107) and finds them the same. Walker's name must, however, take precedence as the preface to Pt. vi of his "Cat. Het." bears the official date: January 21st, 1873.

I have recently received specimens of this species from Calcutta where it is injurious to garden *Coleus*, and from Trivandrum, Travancore, sent to me by Dr. Annandale, where "it is common on English sage."

Division *AXIOKERSOSARIA.*

Axiokersosaria, *Dist. Ann. Soc. Ent. Belg.* liii, p. 121 (1909).

This division represents one of the more distinct sections of the Tingididæ. The very long antennæ and the elongate basal joint of same, combined with the long anterior femora and the small sutural areas of the elytra, are almost of more than sectional or divisional signification.

Genus **AXIOKERSOS.**

Axiokersos, *Dist. Ann. Soc. Ent. Belg.* liii, p. 121 (1909).

Type, *A. ovalis*, Dist.

Distribution. At present only known from Calcutta.

Antennæ very long, the basal joint long, robust, longer than head, second joint much shorter and little more than half as long as first, third longer than first and second together; head robust, well produced in front of eyes, antennæ inserted near apex with a robust basal spinous tubercle; pronotum elongate, the anterior margin concave, the lateral margins obliquely straight, a central longitudinal carination, and an obscure transverse ridge near middle, before anterior margin on each side of the central carination is a small foveate depression; elytra elongately subovate, the areas well defined, costal area hyaline with two series of areolets, subcostal area about as wide as costal area, sutural area small and narrow; legs long, the anterior femora long, robust and interiorly obtusely dilated.

2897. **Axiokersos ovalis**, *Dist. Ann. Soc. Ent Belg.* liii, p. 122 (1909).

Above dull greyish; head, antennæ, a large impunctate spot on each side of the anterior area of pronotum, the subcostal area to the elytra, and the legs, ochraceous; apex of fourth joint of antennæ, eyes, outer margin of discoidal area of elytra and sometimes a longitudinal streak near inner margin of same, and abdomen above and beneath, black; costal area of elytra hyaline

with the margins of the areolets brownish; pronotum (excluding anterior transverse spot) finely granulose, the central carination

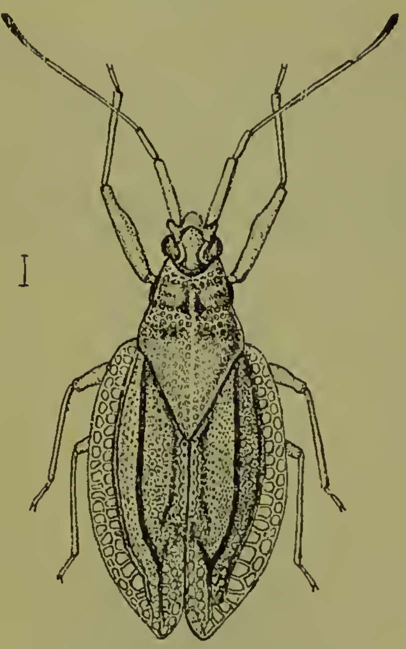

Fig. 65.—*Axiokersos ovalis.*

procurrent; discoidal and subcostal areas of the elytra granulose, the former more distinctly so, sutural area with small areolets.

Length 3 millim.

Hab. Calcutta (*Ind. Mus. & Coll. Dist.*).

Division *AIDONEUSARIA.*

Aidoneusaria, *Dist. Ann. Soc. Ent. Belg.* liii, p. 122 (1909).

The following genus *Aidoneus* demarcates another division of the Tingididæ, and is here recognised as such by the short robust antennæ, and the long basal joint to same.

Genus **AIDONEUS**.

Aidoneus, *Dist. Ann. Soc. Ent. Belg.* liii, p. 122 (1909).

Type, *A. dissimilis*, Dist.

Distribution. At present only received from Bengal.

Subovate; antennæ short, granulose, slightly stalked at base, first and second joints stout, first much longer than second, third longest and thickened on its basal area, fourth about as long as first; head robust, the antenniferous tubercles prominent; pronotum with the anterior margin angularly concave, centrally carinate, unprovided with a vesicle or hood, the lateral margins oblique; elytra with the discoidal area very large, costal area very small, scarcely half the width of subcostal area, sutural area ill-defined; legs moderately short, the femora incrassate, tibiæ slightly thickened at base.

2898. **Aidoneus dissimilis**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 123 (1909).

Above fuscous brown; anterior margin and apical area of pronotum and base of elytra sordidly greyish; outer margin of discoidal area, the subcostal area, and apex of sutural area paler in hue, costal area whitish with black spots; body beneath and legs black, the tibiæ stramineous; pronotum very coarsely and somewhat sparingly punctate; elytra with the discoidal area finely

Fig. 66.—*Aidoneus dissimilis.*

granulose and with widely reticulate slightly raised black lines, subcostal area with irregular transverse black lines, sutural area ill-defined but with dense small areolets; femora somewhat rugulose; other structural characters as in generic diagnosis.

Length 2 millim.

Hab. Bengal (*Coll. Dist.*).

Species of uncertain position and identity.

Cysteochila taprobanes, *Kirk. Ann. Soc. Ent. Belg.* 1908, p. 12.

"Broader and less elongate than typical *Cysteochila*; the discoidal area does not reach nearly to the apex of the abdomen and is more rounded internally; pale yellow; first, second, and fourth joints of antennæ, legs, abdomen beneath &c., brownish yellow; tegmina across discoidal area to the exterolateral margins, and on apical fifth, lightly marked with fuscous; eyes, meso- and metasterna black." (*Kirkaldy.*)

"Length 3¾ millim."

Hab. Ceylon; Galle (*fide Kirkaldy.*)

The above description may indicate a new species, but does not allow of generic or specific identification.

Family PHYMATIDÆ. (Vol. II, p. 146.)

To this small family only two more species can now be added. Doubtless other species will be found by collectors; in the Ethiopian Region the first two have only recently been described.

Genus GLOSSOPELTA. (Vol. II, p. 150.)

2899. **Glossopelta dudgeoni,** *Dist. Entomologist,* xxxvii, p. 277 (1904).

Black; anterior lateral margins of pronotum, connexivum, a longitudinal spot on each side of head beneath, rostrum, sternum (excluding lateral angles), abdomen and legs stramineous; head granulose, area of the ocelli and the eyes castaneous; antennæ with the first joint robust, granulose, almost as long as second and third joints together, second and third joints short, more slender than the other joints, subequal in length and attenuated at their bases, fourth joint incrassate, pyriform, with its base castaneous, and longer than second and third together; pronotum with the anterior lobe finely and sparingly granulose, the posterior lobe very coarsely punctate with two discal ridges commencing on posterior margin of anterior lobe, anterior lateral margins strongly crenulate, posterior angles produced, their apices broadly concavely truncate; scutellum very finely densely and obscurely punctate and with a central longitudinal raised line; connexivum broadly and convexly produced to second segment and then sinuately narrowed to its apex.

Length 10 millim.; exp. pronot. angl. 4 millim.

Hab. Kangra Valley, 4,500 ft. (*Dudgeon, Coll. Dist.*).

Allied to *G. truncata*, Dist. (vol. ii, p. 150) by the truncate posterior angles to the pronotum, but these in *G. dudgeoni* are more produced and outwardly concavely sinuate; the scutellum is less sinuate near base, and the colour is also of a very distinctive character.

2900. **Glossopelta lineolata,** *Dist. A. M. N. H.* (8) iii, p. 496 (1909).

Body above black; pronotum with the anterior lateral margins, a transverse fascia (medially interrupted) between the humeral angles, the discal carination, and a small darkly punctate spot at base, ochraceous; scutellum with a central longitudinal line and some macular suffusions on the apical half ochraceous; connexivum, body beneath, legs and rostrum pale ochraceous; head beneath black; antennæ brownish ochraceous, basal joint (excluding apex) and apex of apical joint black; membrane, as seen on each side of apical half of scutellum, violaceous; corium, as seen on each side of basal half of scutellum, black, posteriorly outwardly ochraceous; anteocular and postocular portions of head almost equal in length, centrally longitudinally sulcately impressed

behind eyes, apical joint of antennæ about as long as the two preceding joints together; pronotum coarsely punctate on the posterior half, two anteriorly curved carinations on disk, between which is

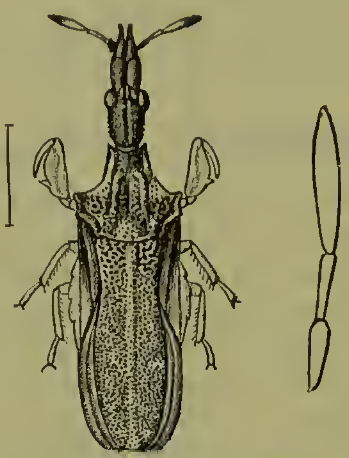

Fig. 67.—*Glossopelta lineolata.*

a fine longitudinal sulcate impression, the lateral angles anteriorly very slightly directed forward, their apical margins a little concave scutellum thickly finely punctate, coarsely punctate at base; connexivum only visible at middle.

Length 10 millim.

Hab. Assam; Khási Hills (*Lefroy*). Burma (*Coll. Dist.*).

Family ARADIDÆ. (Vol. II, p. 153.)

There are but a few species to add to the enumeration of this family and there is little to remark on its general taxonomy. It has already been stated (vol. iv, p. 420) that *Eumenotes*, formerly included in the Aradidæ (vol. ii, p. 155), then following Walker and Bergroth, has by the latter writer been transposed to the subfamily Tessaratominæ of the Fam. Pentatomidæ. Bergroth, however, was in error when he wrote that Stål did not know this genus *in natura*. Stål received and enumerated it in his "Hemiptera insularum Philippinarum" (Öfv. Vet.-Ak. Förh. 1870, p. 645), where he followed Westwood, the original describer, in placing *Eumenotes* in the Subfamily Dinidorinæ (vol. i, p. 279), after the genus *Megymenum*, which appears to be its natural location.

Genus ARADUS. (Vol. II, p. 153.)

2901. **Aradus dignatus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 362 (1909).

Black; antennæ with the first joint black, the second very pale ochraceous with its extreme base black, third stramineous, fourth black; corium pale greyish, claval veins concolorous, costal margin

and veins on costal area jet-black; membrane hyaline, very indistinctly spotted with pale fuscous on apical margin ; head longer than broad, spines at antenniferous tubercles long and prominent; eyes distinctly transversely produced ; antennæ with the second joint about four times as long as the first, third gradually thickened from base to apex; rostrum extending beyond the base of the prosternum which is sulcate ; pronotum with the anterior margin

Fig. 68.—*Aradus dignatus.*

distinctly broader than base of head but not extending beyond the apices of the eyes, with six longitudinal carinations, the sublateral ones more strongly curved, the two central ones least so, lateral margins rounded and finely crenulate; scutellum elongately triangular, the base much shorter than the lateral margins; the lateral margins elevated; corium at base slightly laterally ampliated, membrane in ♂ slightly passing the abdominal apex; legs more piceous than black.

Length ♂ 4 millim.

Hab. W. Bengal; Paresnath, 4000 to 4400 feet (*Annandale, Indian Mus.*).

2902. **Aradus antemissus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 362 (1909).

Black; antennæ black with the apical joint stramineous, its apex ochraceous; hemelytra resembling those of *A. dignatus* but with the membrane more prominently spotted with pale fuscous; connexivum spotted with pale ochraceous; head longer than broad, spines at antenniferous tubercles long and prominent; eyes transversely produced but not so strongly as in *A. dignatus*; antennæ somewhat short and robust, second and third joints distinctly incrassated, second about three times as long as first, third and fourth subequal in length; rostrum extending beyond the base of the prosternum which is sulcate; pronotum with the anterior angles more distinctly produced than in *A. dignatus*, anterior

margin not or scarcely extending beyond the apices of the eyes, six-carinate, the two central carinations straighter than those of *A. dignatus*, lateral margins rounded and finely crenulate; scutellum a little broader than in *A. dignatus*; membrane in ♀ not quite reaching the abdominal apex.

Length ♀ 5½ millim.

Hab. W. Bengal; Paresnath, 4000 to 4400 feet (*Annandale, Indian Mus.*).

MEZIRA to replace **Brachyrhynchus**. (Vol. II, p. 159.)

Mr. C. O. Waterhouse in his "Index Zoologicus" has shown that *Brachyrynchus* was used as a generic term by Selys-Longchamps in 1831 (Aves)—"in Van der Mallen, Dict. Geogr. Liège, 1831, App. p. 36." Bergroth following this up, writes (Canad. Entomol. 1906, p. 202): "The genus *Brachyrrhynchus*, Lap. must bear the younger name *Mezira*, Amy. & Serv., the first name being preoccupied. Bergroth, however, has miscopied Laporte's generic name which is *Brachyrhynchus*, and he has not mentioned that the Avian name is *Brachyrynchus*, though we must all agree that these terms are practically synonymous, and that *Mezira* should be substituted.

2903. **Mezira tenuicornis**, *Dist. A. M. N. H.* (8) iii, p. 497 (1909).

Fuscous; antennæ, spinous antenniferous tubercles, posterior pronotal lobe and lateral margins of the anterior lobe, corium, connexivum, body beneath, and legs more fuscous brown; membrane greyish with dark veins, the lateral basal angles ochraceous;

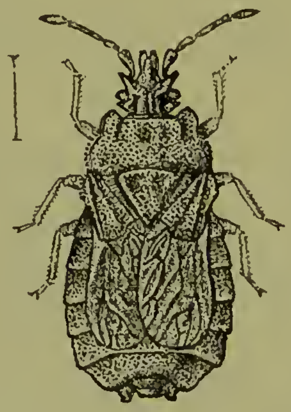

Fig. 69.—*Mezira tenuicornis.*

antennæ with the first, second, and fourth joints incrassate, third joint slender and much the longer; head granulose, spines in front of eyes long, acute, behind eyes tumid and distinctly laterally

spined; pronotum granulose, the anterior area sculptured, the anterior angles broadly, somewhat roundly, subangularly produced, the lateral margins sinuated before middle and roundly ampliated towards base; scutellum granulose and subrugulose; corium granulose, the apical margins strongly sinuate, the lateral margins near base distinctly ampliated; membrane not quite reaching posterior margin of penultimate abdominal segment; abdomen above granulose; rostrum scarcely passing base of head.

Length 7–8 millim.

Hab. Simla Hills; Matiana, 8000 ft. (*Annandale*).

Near *M. tenericornis*, Bergr. (vol. ii, p. 162).

Under bark of fir (*Annandale*).

Brachrhynchus feanus (vol. ii, p. 160), *B. membranaceus* (vol. ii, p. 160), *B. triangulus* (vol. ii, p. 161), *B. lateralis* (vol. ii, p. 161), *B. tagalicus* (vol. ii, p. 162), *B. tenericornis* (vol. ii, p. 162), and *B. undulatus* (vol. ii, p. 162) must now stand under the revised generic name *Mezira*.

Genus **ANEURUS**. (Vol. II, p. 166.)

2904. **Aneurus greeni,** *Dist. Entomologist,* xxxviii, p. 194 (1905).

Head, pronotum, scutellum and sternum black; abdomen, apex of head, coxæ, and apices of tibiæ piceous brown; tarsi ochraceous; corium stramineous, its base black, its apex and longitudinal veins very dark fuscous; membrane pale hyaline and reflecting the pale brown disk of the abdomen above; head finely punctate, most strongly so behind eyes, distinctly longitudinally sulcate on each side of the median lobe; antennæ with the basal joint very strongly incrassate, second joint longer than third, fourth longest; pronotum with a broad central transverse depression, the anterior angles prominently rounded, the lateral margins moderately concavely sinuate, the posterior angles broadly rounded, a little prominent, centrally very finely transversely striate, obscurely punctate, most distinctly so on lateral areas and at anterior and posterior angles; scutellum very finely and thickly granulate, about as broad as long, its margins very obscurely piceous brown.

Length 4–5 millim.

Hab. Ceylon; Pundaluoya (*Green*).

Differing from the Burmese *A. indicus*, Bergr., by the absence of the central carination to the scutellum, the more rounded and less prominent posterior pronotal angles, the more strongly incrassated basal joint of the antennæ, the stramineous corium, &c.

Family HEBRIDÆ. (Vol. II, p. 167.)

Genus HEBRUS. (Vol. II, p. 167.)

2905. **Hebrus bengalensis,** *Dist. A. M. N. H.* (8) iii, p. 497 (1909).

Head black, with a greyish marginal line in front of eyes and a more or less ochraceous line at inner margins of eyes, finely pilose on basal area; pronotum dark castaneous, the anterior marginal area greyishly pilose, continued centrally towards middle by a wedge-shaped fascia; scutellum black; corium black, with short coarse pale hairs, a very prominent claval greyish fascia widening posteriorly and a curved more obscure greyish line before basal half of costal margin; membrane shining brownish, with a pale

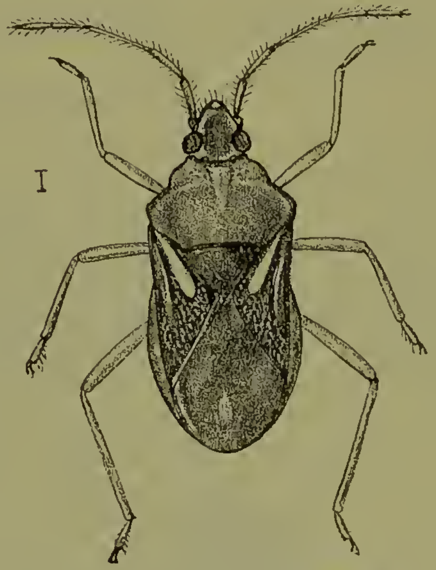

Fig. 70.—*Hebrus bengalensis.*

central subapical spot and a pale marginal line; body beneath black, legs pale ochraceous; antennæ dull ochraceous, with fine pale hairs, second joint shorter than first or third, fourth and fifth joints subequal in length; pronotum with the lateral margins strongly sinuate, the lateral angles prominent; scutellum with the apex angularly rounded, not incised.

Length 2 millim.

Hab. Lower Bengal (*Coll. Dist.*).

Genus MERRAGATA.

Merragata, *Buch. White, A. M. N. H.* (4) xx, p. 113 (1877); *Champ. Biol. Centr.-Am., Rhynch. Hem.-Het.* ii, p. 121 (1898).
Lipogomphus, *Berg, Hem. Argent.* p. 286 (1879); *id. tom. cit. Add. & Emend.* p. 116 (1884).

Type, *M. hebroides*, Buch. White, from the Hawaiian Islands.

Distribution. Oriental and Neotropical Regions; Hawaiian Islds. Probably much more widely distributed.

This genus is closely allied to *Hebrus* and is principally to be differentiated by the shorter and four-jointed antennæ. Buchanan White described the antennæ as five-jointed, but this, as Champion has pointed out, was due to "counting the minute jointlet at the base of the third joint as a true joint." Berg described the posterior tarsi as three-jointed, but as Champion also remarks "this cannot be correct."

2906. **Merragata pallescens**, *Dist. A. M. N. H.* (8) iii, p. 498 (1909).

Head, pronotum, and scutellum pale cinnamon-brown; corium ochraceous, the claval area milky white, base of costal margin narrowly black; membrane milky white; head beneath and sternum pale cinnamon-brown; abdomen beneath piceous; legs and rostrum ochraceous; antennæ ochraceous, with fine hairs, third joint a little shorter than second, fourth piceous and about subequal in

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Fig. 71.—*Merragata pallescens.*

length to third; pronotum with the lateral margins strongly sinuate, the lateral angles broadly prominent, the basal margin moderately concave before scutellum; apex of scutellum broadly subtruncate, very slightly angulate on each side, the disk transversely foveately depressed.

Length 2 millim.

Hab. East Bengal; Rajshai (*Annandale*).

I have only seen a single specimen of this beautiful and distinctly marked species.

Genus HYRCANUS, nov.

Type, *H. capitatus*, Dist.

Distribution. N. India.

Head longer than broad, moderately attenuated anteriorly, the apex subtruncate, the apices of the lateral margins on each side spinously produced, somewhat obscurely centrally ridged; eyes small, not reaching the basal margin; antennæ short, inserted about midway between eyes and apex, first joint incrassate, about as long as second which is curved and apically thickened, third joint shortest, fourth thickened, pyriform, longer than third; rostrum passing the intermediate coxæ; pronotum about half as long as broad at humeral angles which are sub-prominent and rounded, the lateral anterior margins sinuate and obliquely narrowing to apex, the posterior lateral margins concavely obliquely sinuate to basal angles of scutellum, the anterior margin moderately concave, posterior margin before scutellum almost truncate, the disk is strongly declivous anteriorly and somewhat broadly longitudinally impressed; scutellum slightly longer than broad at base; corium with the central margin about as long as greatest length of membrane, its apical margins straightly oblique; membrane indistinctly exhibiting two longitudinal veins on apical area; legs of moderate length, the femora distinctly thickened, narrowing to apices and hirsute, basal joint of tarsi very long and thickened, narrowed at base.

The peculiar structure of the head and antennæ distinguishes this genus.

2907. **Hyrcanus capitatus**, sp. n.

Body above black, somewhat shining, the membrane opaque; head beneath and sternum black, abdomen beneath greyish ochraceous, thickly finely tomentose; legs black, bases of femora

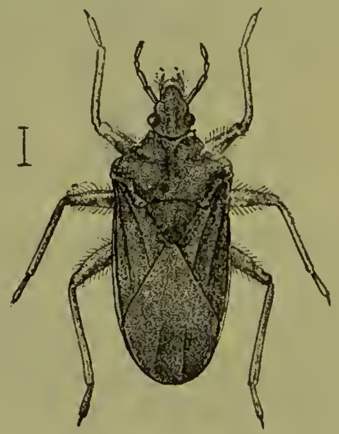

Fig. 72.—*Hyrcanus capitatus.*

and their under surfaces reddish ochraceous; antennæ finely pilose, the first and second joints obscure ochraceous, third and

fourth joints blackish ; connexivum, as narrowly seen, ochraceous ; structural characters as in generic diagnosis.

Length 4 millim.

Hab. Sikkim (*Coll. Dist.*).

Genus **TIMASIUS.**

Timasius, *Dist. A. M. N. H.* (8) iii, p. 498 (1909).

Type, *T. splendens*, Dist.

Distribution. Ceylon.

Head moderately elongate, a little depressed anteriorly, with two central longitudinal ridges not reaching apex ; eyes strongly granulate ; antenniferous tubercles spinous externally ; antennæ five-jointed ; pronotum with the lateral margins strongly sinuate, the lateral angles broadly roundly prominent, transversely impressed before middle, and with two strong central longitudinal ridges ; scutellum sub-triangular, strongly, centrally, longitudinally ridged ; corium and membrane subequal in length.

Allied to *Hebrus*, but differing in the more elongate body, the spinous antenniferous tubercles, and the centrally ridged head, pronotum, and scutellum.

2908. **Timasius splendens**, *Dist. A. M. N. H.* (8) iii, p. 499 (1909).

Head, pronotum, and scutellum black ; pronotum with two central small spots of ochraceous hairs on anterior marginal area ;

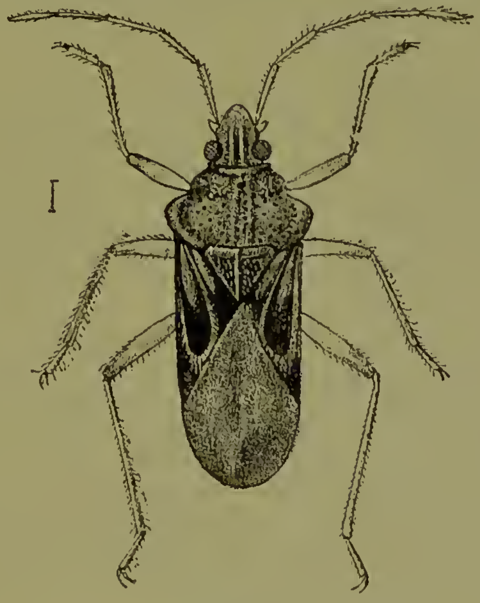

Fig. 73.—*Timasius splendens.*

corium bluish grey, with the margins, apical angle, a sub-oblong spot on disk, and the apex of clavus black ; membrane dull blackish,

with some greyish suffusions, the most prominent of which is a central subapical longitudinal line; body beneath black; legs ochraceous, the tibiæ and apices of femora and tarsi black; antennæ piceous or black, with short fine hairs, second joint slightly shorter than first, third and fourth subequal in length, each a little longer than fifth; pronotum sparingly coarsely punctate; scutellum finely granulose, the central ridge prominent; other structural characters as in generic diagnosis.

Length 3 millim.

Hab. Ceylon; Peradeniya (*Green*).

"On rocks in mid-stream" (*E. E. Green*).

2909. **Timasius atratus**, *Dist. A. M. N. H.* (8) iii, p. 499 (1909).

Black; legs pale ochraceous, posterior tibiæ pale piceous; head opaque, with two central carinæ terminating about one-third before apex, antenniferous tubercles spinously produced, eyes strongly granulose; antennæ ochraceous, pilose, first joint longer than second, a little shorter than third, fourth and fifth subequal in length, almost fused; pronotum with its disk considerably mutilated in typical specimen, but apparently bicarinate, the lateral margins strongly sinuate, the lateral angles roundly prominent; scutellum longitudinally carinate; pronotum, scutellum, and corium shining black; membrane piceous black, opaque; legs pilose.

Length $2\frac{1}{2}$ millim.

Hab. Ceylon; Madulsima (*Bainbrigge-Fletcher*).

Family HYDROMETRIDÆ. (Vol. II, p. 168.)

Subfamily MESOVELIINÆ. (Vol. II, p. 168.)

Genus **MESOVELIA**. (Vol. II, p. 168.)

Mesovelia mulsanti. (Vol. II, p. 169.)

I was previously only able to record this species from Ceylon, at least so far as this fauna is concerned.

Add: *Hab.* Bengal; Port Canning (brackish pools, *Ind. Mus.*), Calcutta, at light (*Paiva*), Rajshai (*Annandale*), Puri, Orissa Coast (*Annandale*). United Provinces; Lucknow (*Annandale*).

Subfamily VELIINÆ. (Vol. II, p. 171.)

Genus **RHAGOVELIA**. (Vol. II, p. 171.)

2910. **Rhagovelia nigricans**, *Burm.* (Velia), *Handb. Ent.* ii, p. 213 (1835); *Mayr, Reise Novara, Hem.* p. 181 (1866).
Velia infernalis, *Butl. Ann. Mag. Nat. Hist.* (4) xvii, p. 411 (1876); *id. Phil. Trans.* clxviii, pl. liv, f. 5 (1879).
Rhagovelia maculata, *Dist. A. M. N. H.* (7) xii, p. 472 (1903).
? *Var.* Rhagovelia reitteri, *Reut. Öfv. Finsk. Vet. Soc. Förh.* xxv, p. 39 (1882).

Piceous black; anterior margin of pronotum (sometimes medially interrupted), base of first joint of antennæ, connexivum above and beneath, base of rostrum, acetabula, coxæ, trochanters, bases of femora above and the greater part of femora beneath, luteous; hemelytra with a narrow streak at base and sometimes some smaller scattered spots bluish grey; antennæ, legs, and margins of pronotum somewhat longly pilose; first joint of antennæ longest, outwardly curved, second and fourth subequal, each slightly shorter than third.

Length 3 to 4 millim.

Hab. Travancore (*Annandale*). Ceylon (*Green*); Diyatalawa (*Bainbrigge-Fletcher*).—Syria. Egypt. Abyssinia. West Africa. Mascarene Islds. Seychelles.

This species is mostly represented by apterous forms.

Genus MICROVELIA. (Vol. II, p. 174.)

2911. **Microvelia albomaculata**, *Dist. A. M. N. H.* (8) iii, p. 499 (1909).

Dull piceous black with a greyish pubescence, which is more pronounced and forms a marginal fascia to head continued inside eyes to base and a submarginal fascia to pronotum; a reddish ochraceous anterior marginal fascia to pronotum, not reaching the anterior angles; hemelytra largely spotted with greyish white, of which a large spot occupies the greater part of clavus excluding apex, corium with two large basal marginal spots, three irregularly shaped spots in transverse series a little beyond middle, a large

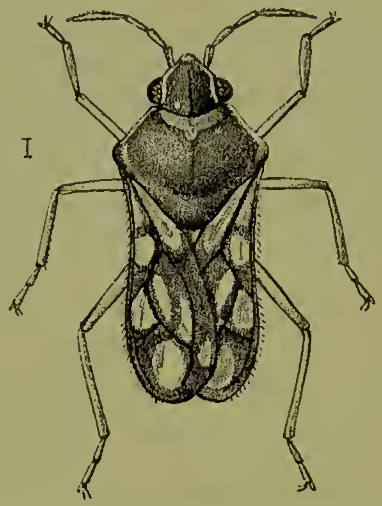

Fig. 74.—*Microvelia albomaculata.*

subapical membranal spot and a smaller subapical spot at inner margin; legs pale ochraceous; antennæ fuscous, first joint very slightly longer than second or third joints, which are shortest and subequal in length, fourth longest, its apex distinctly acuminate; head subglobosely arched; lateral angles of the pronotum subangularly prominent; lateral margins of the hemelytra concavely sinuate and finely shortly hirsute; apices of tibiæ and tarsi more or less obscurely fuscous.

Length 2 millim.

Hab. E. Bengal; Rajshai (*Annandale*).

2912. **Microvelia kumaonensis**, *Dist. A. M. N. H.* (8) iii, p. 500 (1909).

Head, pronotum, and body beneath dull black; apex of head, anterior margin of pronotum (centrally interrupted and not

reaching anterior angles), margin of lateral pronotal angles, legs, and rostrum pale ochraceous; lateral margins of head, continued inside eyes to base, greyishly fasciately pubescent; hemelytra pale piceous brown, with prominent greyish white spots, an elongate spot in clavus, a large subbasal spot to corium, more obscure spots on apical half of corium, and a prominent subapical spot; antennæ

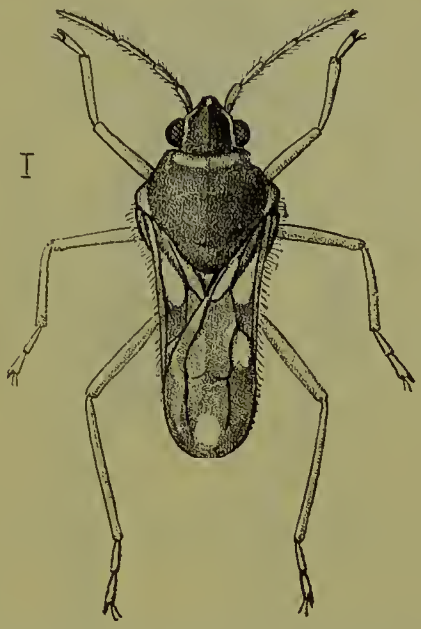

Fig. 75.—*Microvelia kumaonensis.*

brownish ochraceous, second joint slightly shorter than first and distinctly shorter than third, fourth longest; head subglobosely arched; pronotum with the lateral angles broadly subacutely prominent; apices of tibiæ and tarsi more or less pale piceous.

Length 2 millim.

Hab. Kumaon; Bhim Tal.

2913. **Microvelia diluta,** *Dist. A. M. N. H.* (8) iii, p. 500 (1909).

Head and pronotum dull black; anterior margin of pronotum reddish ochraceous; hemelytra dull greyish white, the veins piceous, the apical area darker and thus exhibiting a large pale apical spot; body beneath and legs dull pale ochraceous; rostrum, disk of sternum, apices of femora, tibiæ (more or less), and the tarsi piceous; antennæ with the first, second, and third joints ochraceous, their apices and the whole of the fourth joint piceous, second joint slightly shorter than first, more distinctly shorter than third; head globosely arched; pronotum with the lateral margins sinuate, the lateral angles subangularly prominent; hem-

elytra scarcely reaching the abdominal apex; connexivum granulose and pilose.

Length $2\frac{1}{2}$ millim.

Hab. Bengal; Calcutta, Rajshai (*Annandale*).

"Stridulates when irritated, producing a shrill scraping sound which is perceptible for some yards. Feeds on dead insects.

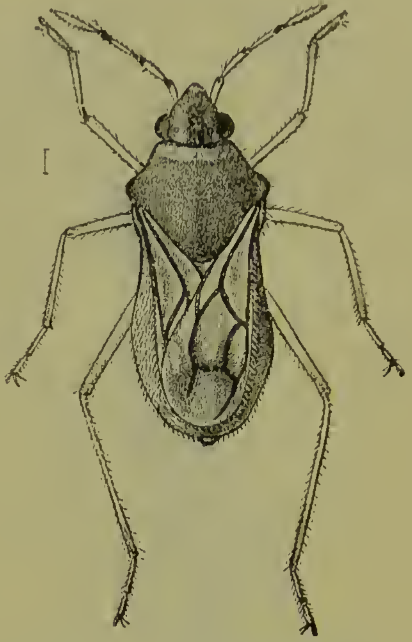

Fig. 76.—*Microvelia diluta.*

Winged and apterous individuals occurring together." (*Nelson Annandale*, in litt.)

Allied to *M. repentina*, Dist., but colour of antennæ and body beneath different. In some specimens the lateral margins of the abdomen beneath are piceous.

2914. **Microvelia annandalei,** *Dist. A. M. N. H.* (8) iii, p. 501 (1909).

Head and pronotum dull black; pronotum with a transverse dull ochraceous subanterior fascia not reaching the lateral margins (this fascia is frequently discoloured and difficult to recognise); hemelytra piceous, a basal claval streak, and three spots on apical area (the apical spot linear) dull greyish with a greenish tint; body beneath black; head beneath, margins of prosternum, lateral margins of abdomen, and the legs ochraceous; antennæ with the first, second, and third joints ochraceous, apices of first and second and the whole of the fourth joint piceous, second joint distinctly shorter than either first or third, third and fourth subequal in length; head with the apex ochraceous and a pale longitudinal line

at inner margins of eyes; extreme apices of the femora and sometimes the intermediate and posterior tibiæ more or less infuscate; lateral angles of the pronotum broadly subprominent.

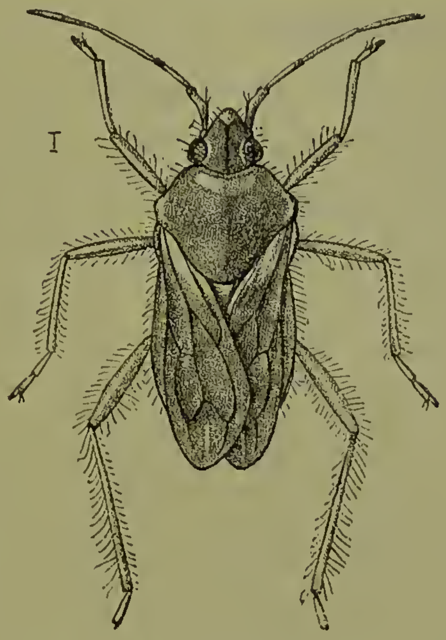

Fig. 77.—*Microvelia annandalei.*

Length 2 millim.

Hab. Lower Bengal; Port Canning (in brackish pools).

Subfamily GERRINÆ. (Vol. II, p. 175.)

Since I previously enumerated the British Indian genera and species of this subfamily our knowledge of the Gerrinæ has been very considerably increased. This is almost entirely owing to the collections recently made by Dr. Annandale, who has given so much attention to the fauna of the brackish and fresh waters of India, and also to the oceanic species collected by the Indian Marine Survey.

As regards the divisional lines between the Gerrinaria (vol. ii, p. 176) and the Halobatinaria (vol. ii, p. 186), besides the characters given by Bianchi as already recorded, attention must be drawn to the structure of the eyes, a character originally pointed out by Mayr. In the Gerrinaria the ocular orbita is arcuately sinuate behind the middle, and in the Halobatinaria the inner margins of the eyes are convexly rounded. These characters are useful, and generally but not universally applicable as may be seen in the genus *Fabatus* of this fauna. They have been somewhat insistently advocated by Bergroth, but this critical writer avoids the responsibility of faunistic work and thus enjoys the privileges of a free-lance.

J. R. de la Torre Bueno (Ohio Nat. viii, p. 389, 1908) has thrown much light on the cause of "the broken hemelytra in certain Halobatinæ."

Genus GERRIS. (Vol. II, p. 176.)

2915. **Gerris lepcha**, *Dist. A. M. N. H.* (8) v, p. 140 (1910).

Body above and beneath black, beneath finely and more palely tomentose; antennæ with the first, second, and third joints brownish ochraceous, extreme apices of the first and second, apical half of the third and the whole of the fourth joint black or piceous, the fourth palely sericeous; anterior area of pronotum with a more or less distinct central longitudinal ochraceous fascia, remaining area piceous brown; legs and rostrum brownish ochraceous, apex of rostrum black; coxæ and trochanters brownish ochraceous beneath; antennæ with the first joint longest, second shortest, third and fourth almost subequal in length or fourth slightly longer than third; head moderately convex, longer than broad; pronotum with the anterior area or lobe with two small transverse linear callosities on disk; posterior area or lobe rugulose and punctate, slightly transversely ridged between the humeral angles, which are tuberculously prominent, thence convexly deflected to base, the basal margin broadly laminate and strongly punctate; hemelytra longer than posterior femora; rostrum scarcely passing the anterior coxæ; intermediate a little longer than posterior femora.

Length $11\frac{1}{2}$ to 14 millim.

Hab. Sikkim; Shamdang, about 3000 ft. (*Ind. Mus.*).

GERRIS NITIDA. (Vol. II, p. 178.)

The distribution of this species is now further known in Continental India.

Add: *Hab.* Darjiling, Botanical Gardens, 6,900 ft. (*Paiva*); Kurseong, 5000 ft. (*Annandale*). Orissa; Balighai, near Puri (*Annandale*).

GERRIS FOSSARUM. (Vol. II, p. 178.)

Add: *Hab.* Bengal; Calcutta, Port Canning.

"Found in brackish pools" (*N. Annandale*).

Capt. W. S. Patton has described "The life cycle of a species of *Crithidia* parasitic in the intestinal tract of *Gerris fossarum*, Fabr." (Arch. f. Protistenkunde, 1908, p. 131).

2916. **Gerris monticola**, *Dist. A. M. N. H.* (8) v, p. 141 (1910).

Head and pronotum dull chocolate-brown, head moderately infuscate; pronotum with a central longitudinal dull ochraceous

line which is faint and subobsolete on posterior area, anterior lateral and posterior margins dull ochraceous; eyes black; antennæ with the first and second joints brownish ochraceous, their apices black, third and fourth joints piceous; hemelytra piceous brown, the veins brownish ochraceous, a dull greyish elongate spot behind middle and near inner margin, membranal area dull piceous, the extreme margin brownish; body beneath ochraceous; a lateral marginal fascia to sternum, a sublateral slightly curved line scarcely reaching middle of sternum, a longitudinal oblique line at the region of the anterior and intermediate acetabula, and suffusions to the abdomen beneath black; between the lateral and sublateral fasciæ the sternum is silvery grey pubescent, and the lateral margins of the abdomen and a spot on the posterior acetabula also silvery grey pubescent; rostrum ochraceous, its apex black; legs dull ochraceous, the femora narrowly margined with piceous, apices of tibiæ and the whole of the tarsi piceous black; antennæ with the first joint longest, second, third and fourth joints almost subequal in length; rostrum distinctly passing the anterior coxæ; head moderately convex, longer than broad; pronotum with the margins of the anterior area convex, obscurely transversely ridged between the humeral angles, which are subprominently nodulose, posteriorly moderately obliquely deflected; hemelytra slightly shorter than posterior femora; intermediate and posterior femora about equally long, anterior femora moderately thickened.

This description is taken from a macropterous female specimen; in some apterous male specimens the anterior femora are distinctly incrassated.

Length ♀ macropt. 10, ♀ apt. $8\frac{1}{2}$, ♂ apt. 8 millim.

Hab. Simla Hills; Dharampur, 5000 ft., Matiana 8000 ft. (*Annandale*); Bhim Tal, Kumaon, 4500 ft. (*Annandale*); Kurseong, 5000 ft. (*Annandale*).

GERRIS SAHLBERGI. (Vol. II, p. 179.)

Add: *Hab.* Simla Hills; Theog, 8000 ft. United Provinces; Naini Tal, Kumaon.

Common in stagnant pools (*N. Annandale*).

2917. **Gerris nepalensis**, *Dist. A. M. N. H.* (8) v, p. 142 (1910).

Body above and hemelytra black; body beneath silvery pubescent; lateral margins of head silvery pubescent; antennæ with the first and second joints castaneous brown, their extreme apices and the whole of the third and fourth joints piceous black; pronotum with an obscure longitudinal, central, brownish ochraceous line, usually only discernible on the anterior area; anterior femora black with silvery pubescence, their base and a spot near apex ochraceous; intermediate and posterior femora brownish ochraceous, their apices black; intermediate and posterior

tibiæ and all the tarsi black, anterior tibiæ brownish ochraceous, their apices black; antennæ with the first joint longest, fourth slightly longer than third; head moderately convex, longer than broad; pronotum with the margins of the anterior area slightly convex, a little transversely ridged between the humeral angles, which are slightly prominent and then globosely posteriorly deflected, the posterior margin sublaminate, the posterior area sparsely coarsely punctate; hemelytra about as long as the posterior femora; intermediate and posterior femora about equally long; rostrum black, slightly passing the anterior coxæ.

Length ♂ macropt. 8 millim.

Hab. Nepal; Soondrijal and Chonebal, Katmandu. United Provinces; Lucknow (*Annandale*).

Allied to *G. sahlbergi*, Dist.

GERRIS TRISTAN. (Vol. II, p. 179.)

This species, originally described and known only from Ceylon, is now found to have a wide distribution in India and Burma. It is also possible at the same time to supplement the description so far as the fourth joint of the antennæ is concerned; this like the third joint is fuscous.

Add: *Hab.* Bengal; Port Canning, Rajshai, Dhappa. Orissa; Sur Lake, Puri District (*Annandale*). United Provinces; Naini Tal, Kumaon (*Annandale*) Burma; Moulmein (*Annandale*).

Dr. Annandale found this species in brackish pools at Port Canning and in fresh water at Dhappa.

2918. **Gerris raja**, *Dist. A. M. N. H.* (8) v, p. 142 (1910).

Head ochraceous, eyes black; antennæ with the first joint ochraceous, its apex black, remaining joints black or piceous; pronotum with two anterior and two large discal spots ochraceous (in some specimens these spots are united in pairs); hemelytra black; body beneath, rostrum, and anterior femora ochraceous; apex of rostrum and linear streaks to the anterior femora black; tibiæ, tarsi, and intermediate and posterior femora piceous or black; antennæ with the first joint a little longer than second which is shortest, third longest, fourth shorter than third but longer than first; head a little convex, longer than broad; pronotum with the humeral angles not prominent; hemelytra about as long as the posterior femora; intermediate and posterior femora subequal in length; rostrum passing the anterior coxæ.

Length 5 millim.

Hab. Travancore Coast; Vurkalay (*Annandale*).

"In small pools near sea-shore" (*Annandale*).

By the relative lengths of the joints of the antennæ, and the markings of the head and pronotum, this small species is distinctly recognizable.

Genus JUCUNDUS.

Jucundus, *Dist. A. M. N. H.* (8) v, p. 143 (1910).

Type, *J. custodiendus*, Dist.
Distribution. India and Burma.

Head longer than broad between the eyes, which are moderately emarginate interiorly, in front of eyes almost triangular, where it is prominently notched on each side and then narrowed to apex which is angularly rounded, between the eyes two oblique foveations; antennæ with the first joint longest, about as long as the posterior area or lobe of the pronotum, second, third, and fourth

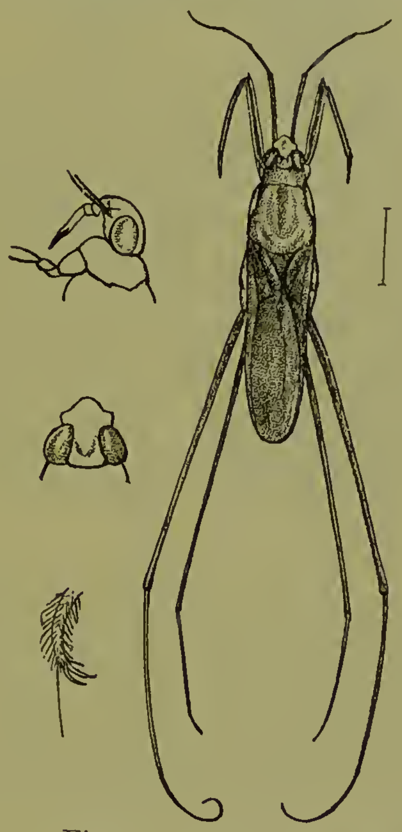

Fig. 78.—*Jucundus custodiendus.*

joints subequal in length; rostrum scarcely passing the anterior coxæ; pronotum moderately flat, not prominently deflected behind the humeral angles, the anterior area or lobe short, about one-third the length of posterior area or lobe; hemelytra considerably passing apex of abdomen; anterior femora slightly thickened and longer than the tibiæ; intermediate and posterior femora about subequal in length, posterior tarsal claws inserted at apex of tarsus.

Allied to *Gerris*, but differing in the shape of the head and the structure of the pronotum.

2919. **Jucundus custodiendus**, *Dist. A. M. N. H.* (8) v, p. 143 (1910).

♀. Head and pronotum ochraceous; eyes, narrow lateral

margins, and a central discal elongate spot to pronotum black; antennæ black; rostrum ochraceous with its apex black; hemelytra black, the marginal and apical areas more brownish; body beneath ochraceous, a spot on the posterior acetabular area black; legs black, anterior femora much longitudinally streaked with ochraceous; structural characters as in generic diagnosis.

Length 8 millim.

Hab. Travancore; Maddathoray, W. base of Western Ghats (*Annandale*).

The above description is taken from a macropterous female specimen; in a second male apterous example, which measures 7 mm., the pronotum has a continuous broad central longitudinal fascia, not extending to the anterior area or lobe.

2920. **Jucundus burmanus**, *Dist. A. M. N. H.* (8) v, p. 143 (1910).

Apterous form.—Body and legs ochraceous, the intermediate and posterior tibiæ piceous; eyes and a narrow central longitudinal line to pronotum black or piceous; abdominal segments piceous; legs with narrow black or piceous longitudinal lines; antennæ black, with the basal joint very long and somewhat stout, second joint less than one-third the length of first joint, remaining joints mutilated in type; anterior area or lobe of pronotum longer than in *J. custodiendus* and with a distinct central longitudinal black line; abdomen with six segments visible above in addition to the anal segment, which is ochraceous with a transverse black line; rostrum scarcely passing the anterior coxæ; anterior tibiæ dentately widened at apex.

Length $6\frac{1}{2}$ millim.

Hab. Upper Burma; North Shan Hills (*J. C. Brown*).

Two apterous forms received from Burma, by the structure of the head undoubtedly belong to *Jucundus*. They differ from the type *J. custodiendus* in having the antennæ more robust, the anterior pronotal area or lobe a little longer, and by the anterior tibiæ being more robust and dentately ampliate at apex.

Genus ONYCHOTRECHUS. (Vol. II. p. 182.)

2921. **Onychotrechus vadda**, *Dist. A. M. N. H.* (8) v, p. 144 (1910).

♂. Body above black; head with the lateral margins in front of eyes, and a central longitudinal fascia, ochraceous; antennæ piceous, basal joint paler beneath; pronotum with the anterior margin, lateral margins, and three longitudinal discal fasciæ (the central one straight, the lateral ones moderately curved) ochraceous; mesonotum with a narrow central straight longitudinal fascia, on each side of which is a broader angulate fascia, and a posteriorly attenuated lateral fascia, ochraceous; at base of abdomen a curved oblique fascia on each side, and a series of lateral marginal

abdominal spots, ochraceous; body beneath and legs ochraceous; sternum with two longitudinal marginal black lines (the innermost short) on each side, and above the outermost a silvery white tomentose fascia; extreme apices of femora, tibiæ and tarsi, black;

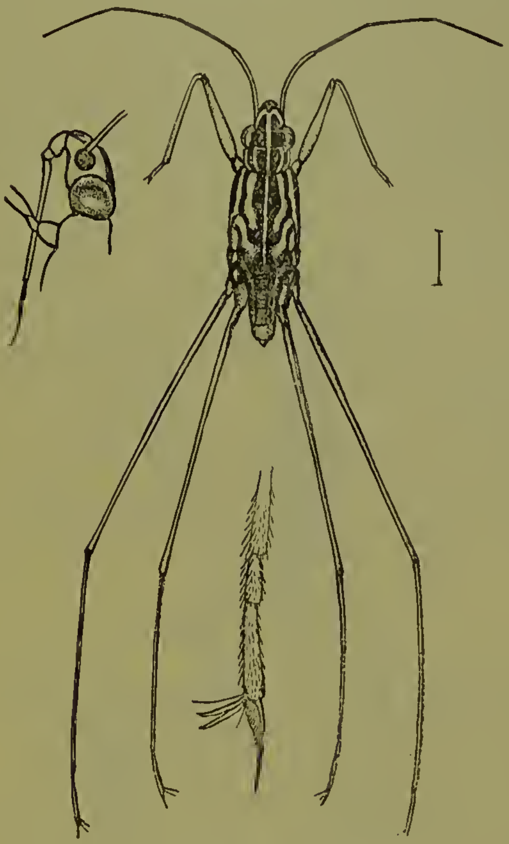

Fig. 79.—*Onychotrechus vadda.*

rostrum ochraceous with its apex black; antennæ with the first joint longest and curved, remaining joints subequal in length rostrum considerably passing the anterior coxæ; intermediate slightly longer than posterior femora; tarsal claws long.

Length ♂ 5, ♀ 6 millim.

Hab. Ceylon; Peradeniya (*Green*), Madulsima, Sabrigama, Haputale, 4800 ft. (*Bainbrigge-Fletcher*).

I have not yet seen a macropterous form of this species.

"On perpendicular rocks with trickle of water: going in pairs, not actually *in coitu*, but the male clinging on back of female." (*E. E. Green.*)

2922. **Onychotrechus kumari**, *Dist. A. M. N. H.* (8) v, p. 145 (1910).

Body above dull ochraceous; head with a short central line at apex, two central oblique lines commencing on apical margin and meeting between the eyes, and a shorter longitudinal line near

inner margin of each eye, black; pronotum with four longitudinal black spots, two central and one near each lateral margin; mesonotum with two central longitudinal lines, a continuous angulate line before each lateral margin, and two lateral lines, black, between the last the colour is silvery white tomentose; abdominal segmental margins black; rostrum, body beneath, and legs pale ochraceous; apex of rostrum, a submarginal linear fascia to sternum, and a short line before intermediate coxæ, black; a silvery white spot on each side of posterior margin of prosternum, a similar but larger spot before intermediate coxæ, and a similar smaller spot near base of lateral margin of abdomen; antennæ dull ochraceous, extreme apices of the first, second, and third joints and the whole of the fourth joint piceous or black, fourth joint longest, second shortest, first and third subequal in length, first moderately curved; intermediate femora a little longer than posterior femora; rostrum considerably passing the anterior coxæ; tarsal claws long.

Length $4\frac{1}{2}$ millim.

Hab. Travancore; Maddathoray, W. base of Western Ghats (*Annandale*).

I have only seen apterous forms of this species.

Genus JANIAS.

(To follow *Cylindrostethus*, Vol. II, p. 184.)

Janias, *Dist. A. M. N. H.* (8) v, p. 145 (1910).

Type, *J. elegantulus*, Dist.

Distribution. At present only received from Travancore.

Body longer than half the length of either intermediate or posterior legs; head longer than broad, the apex obtusely angulate; eyes large, oblique, interiorly moderately emarginate, posteriorly moderately extending over the anterior angles of the pronotum; antennæ short, robust, first joint straight, longest, longer than head, distinctly inwardly spinous at apex, second and fourth joints subequal in length, third shortest; rostrum short, reaching but not extending beyond the anterior coxæ; pronotum about as long as head, narrowed anteriorly behind the eyes, with a central impressed longitudinal line, the posterior margin truncate; mesonotum more than twice as long as pronotum, the disk centrally longitudinally impressed; anterior femora longer than the tibiæ, obtusely spined at apex, intermediate and posterior femora subequal in length.

Allied to *Cylindrostethus* but differing in the shorter antennæ, the less anteriorly produced head, and the more posteriorly produced eyes, &c.

The description is founded on an apterous form.

2923. **Janias elegantulus**, *Dist. A. M. N. H.* (8) v, p. 146 (1910).

Head dark brownish ochraceous, eyes and antennæ black; pronotum black, the lateral and posterior margins and a broad, central, longitudinal, subtriangular fascia dull ochraceous; mesonotum castaneous brown, beyond middle with a large central oblong black spot which contains a broad central longitudinal line with a large spot on each side, pale ochraceous; abdomen above dull brownish ochraceous, with paler markings on lateral margins and darker central segmental spots; body beneath and

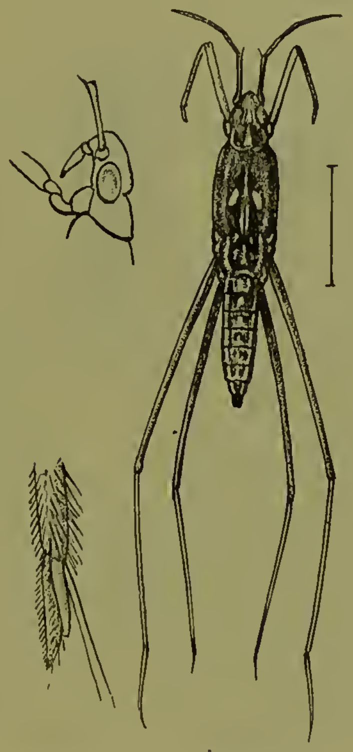

Fig. 80.—*Janias elegantulus.*

legs ochraceous; head beneath, apex of rostrum, apices and longitudinal streaks beneath to anterior femora and the whole of the anterior tibiæ and tarsi, black; intermediate and posterior legs slightly infuscate; pronotum moderately foveately depressed on disk; other structural characters as in generic diagnosis.

Length (apterous form) 11 millim.

Hab. Travancore; Kulattupuzhd, W. base of Western Ghats (*Annandale*).

Genus **URES**, nov.

Type, *U. custos*, Dist.

Distribution. India.

Body longer than half the length of either intermediate or posterior legs; head about as long as breadth between eyes,

anteriorly subtruncate, distinctly angularly notched a little before eyes, thence obliquely directed to apex; eyes oblique, interiorly moderately emarginate, backwardly projecting over the lateral margins of the pronotum; antennæ mutilated in typical specimen; rostrum short, robust, reaching or very slightly passing the anterior coxæ; pronotum a little longer than head, the anterior margin truncate, the posterior margin distinctly convex, the lateral margins broadly angulate near the humeral angles; mesonotum somewhat concavely depressed, longer than broad, widened towards middle, thence obliquely narrowed towards abdomen, the lateral

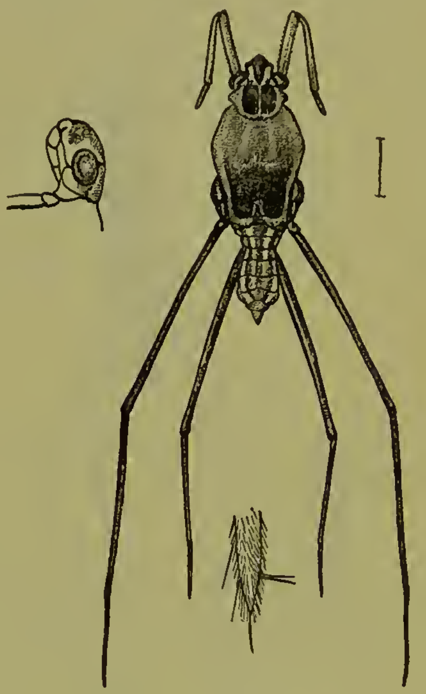

Fig. 81.—*Ures custos.*

margins slightly but distinctly reflexed, the posterior margin centrally inwardly emarginate; abdomen composed of six segments, a little broadened from the apex of third segment, the lateral margins distinctly reflexed; anterior femora moderately slender, about as long as the tibiæ, intermediate and posterior femora subequal in length, intermediate tibiæ considerably longer than posterior tibiæ.

This genus is founded on an apterous specimen; it is allied to *Janias*, from which it differs by the structure of the head and thorax; the absence of the antennæ is much to be regretted, but the insertion of the species in this enumeration is imperative and may promote the collection of other specimens.

2924. **Ures custos**, sp. n.

Head and pronotum dull black; head with the lateral margins of the posterior area and the lateral and posterior margins of the

pronotum dull brownish ochraceous, the latter with a much more indistinct central longitudinal line; mesonotum dull piceous brown, its posterior area black with the margins dull piceous brown; abdomen above black with dull ochraceous spots in longitudinal subfasciate series, the lateral spots more distinct; body beneath dull ochraceous, apex of rostrum black; legs piceous, the bases of the anterior femora dull ochraceous; structural characters as in generic diagnosis; head, pronotum, and mesonotum thickly, shortly, obscurely pilose.

Length (apterous form) 6 millim.

Hab. Kumaon.

Genus **RHEUMATOTRECHUS.**

Rheumatotrechus, *Kirk. Canad. Ent.* xl, p. 452 (1908).

Type, *R. himalayanus*, Kirk.

Distribution. Northern India.

" This genus has somewhat the appearance of *Ptilomera* of the Gerridæ, but the legs are much shorter, especially the fore tarsi.

" Head as in *Ptilomera*, but the eyes are less oblique, and much less emarginate, the vertex being elongate, and subparallel as far as the articulation of the antennæ; first segment [joint] of the antennæ little longer than the second; labrum [rostrum] much as in *Ptilomera*. In the apterous form the pronotum is well rounded at the sides, extending laterally much farther than the eyes. The nota and tergites are much as in *Ptilomera*, but the whole insect is much shorter and broader in proportion, the abdominal sclerites much less elongate, the mesonotum also more rounded laterally. The fore femora are a little incrassate, and are scarcely longer than the tibiæ, fore tarsi very short. Middle and hind legs much shorter than in *Ptilomera*." (*Kirkaldy.*)

2925. **Rheumatotrechus himalayanus**, *Kirk. Canad. Ent.* xl, p. 452 (1908).

" Pale castaneous or fulvous; head with an elongate oval mark on vertex (the interior castaneous) and some lateral marks, dark fuscous. Apex of first segment and apical fourth of second dark fuscous.* Eyes dark. Last segment of labium black. Pronotum dark castaneous; a central line and a lateral sinuous one on each side yellow, the central one narrowly and rather obscurely margined with black, this spreading out a little apically. The mesonotum has a small, subtriangular, fuscous mark on each side subanteriorly. Legs yellowish fulvous, apex of the tibiæ and the tarsi blackish. Tergites dark castaneous, verging on piceous on

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* This presumably refers to the joints of the antennæ.

abdomen proper and inward half of pleurites; one or two smaller brown spots medially. Beneath yellowish fulvous; a lateral, sinuous, dark castaneous line on the mesosternum on each side, edged with silver; also some obscure marks. The first segment of the antennæ one-fifth longer than the second. Fore femora scarcely longer than the tibiæ, which are nearly four times as long as the tarsi; last tarsal segment more than twice as long as the penultimate. Middle femora slender, as long as body from base of clypeus to base of pygophor; scarcely longer than tibiæ and tarsi together; tibiæ about twice and a half as long as the tarsi, first tarsal segment twice as long as the second. Hind femora one-third longer than the middle pair; scarcely longer than the tibiæ and tarsi; tibiæ slightly more than twice as long as the tarsi; first tarsal segment not twice as long as the second. The hind part of the metanotum is triangular, the sides shortly truncate, and the base a little emarginate." (*Kirkaldy.*)

"Length 8 millim."

Hab. Sikkim; Kurseong (*Mus. Brussels—fide Kirkaldy*).

This species is stated to have "considerable general resemblance to *Chimarrhometra orientalis*, Dist." (vol. ii, p. 190), but I have not seen it, nor does it appear to be known at the Brussels Museum, for I have corresponded on the subject with M. Severin and Dr. Schouteden.

Genus **HALOBATES**. (Vol. II, p. 186.)

2926. **Halobates germanus**, *Buch. White, Rep. Voy. 'Challenger,' Zool.* vii, p. 50, pl. i, f. 6 (1883).

"Long oval (♂) or shortly ovate (♀), widest behind the middle. Dark ashy grey, paler on the sides (♂) or silvery grey (♀). Head with an obscure transverse rufous yellow mark on each side at the hind margin. Antennæ and legs fuscous black above, dark fuscous brown below, clothed sparsely with grey pubescence. Base of antennæ narrowly rufous ochreous. Front legs with coxæ, trochanters more especially on inner side, and base of femora below, middle legs with a spot on the acetabula below (broader and more distinct in the female), trochanters, and base of femora below; hind legs with trochanters and base of femora, more or less indistinctly fuscous ochreous brown. Abdomen with hind margins of ventral segments fuscous ochreous. Genital segments: first below on disk and posteriorly, second above, and apex of third above, fuscous brown; second below, especially at apex of horns, and most of third below, fuscous rufous-brown. Antennæ: third joint shorter and fourth joint longer than the second. Front tarsus: first joint rather more than half the length of second. Middle tarsus: first joint about five times as long as second." (*Buchanan White*).

"Length ♂ 3·5, breadth 2, middle femur 4, hind femur (?) millim.
" ♀ 3, " 2·25, " 4, " 3 millim."

Hab. Andaman Sea. "Tithal, Bulsar, Bombay."—North Pacific Ocean and Celebes Sea (*Challenger*). China Sea (*Giglioli—fide Buchanan White*).

Buchanan White remarks: "This species might readily be mistaken for *H. sericeus*, Esch. (a widely distributed species), from which, however, it seems to be structurally distinct."

2927. **Halobates herdmani**, *Carpent. Rept. Pearl Oyster Fisheries*, pt. 5, p. 151, pl. v, figs. 1–19 (1906).

"Feeler with 4th segment half as long again as 3rd, slightly shorter than 2nd. Fore foot with the two tarsal segments subequal. Intermediate foot with the proximal tarsal segment two and a half times as long as the distal. Abdomen of male with the 8th segment slightly asymmetrical, the 'horns' being both inclined towards the left, so that while the right horn is closely applied to the 9th segment, the left is somewhat divergent from the axis of the body; both horns are falcate at the tip.

"This species is most nearly allied to *H. flaviventris*, Esch. [vol. ii, p. 188], of all members of the genus hitherto described. It differs from that species principally in the shape and in the slight asymmetry of the 'horns' of the 8th abdominal segment of the male. The form of this segment in the present insect shows an interesting stage of transition between the symmetrical condition found in the great majority of the species of *Halobates* and the excessive irregularity of *H. micans*, Esch. [vol. ii, p. 187] in which the left horn of the segment projects almost at right angles to the axis of the body.

"In colour *H. herdmani* resembles the other species of the genus. The dorsal and lateral surfaces appear deep blue-black when wet, and ashy grey (owing to the deep pubescence) when dry. On the head is the usual pair of orange triangular marks, while the feelers and legs are black. The thoracic sternum is dark centrally showing only two pale elongate patches towards the lateral sutures close to the bases of the hind legs. The abdominal sterna are mostly pale, but they appear dark laterally and along their hinder borders; the 1st abdominal segment, on which is the opening of the repugnatorial glands, is deep brown." (*Carpenter.*)

"Length, ♂ 5·2, ♀ 5·7 millim."

Hab. Indian Ocean near Ceylon (*Herdman, Brit. Mus.; Bainbrigge-Fletcher, Brit. Mus. & Coll. Dist.*).

The type of this species is in the collection of the British Museum.

Genus EURATAS.

Euratas, *Dist. A. M. N. H.* (8) v, p. 146 (1910).

Type, *E. formidabilis*, Dist.

Distribution. Andaman Sea.

Head large, somewhat flattened, apically subangulately produced and also angularly produced above the insertion of the antennæ; eyes somewhat flattened, rounded interiorly, a little posteriorly produced over the anterior margins of the pronotum; antennæ with the first joint longest, as long as the anterior femora, second not half as long as first, third shortest, a little shorter than fourth; rostrum not passing the anterior coxæ; pronotum slightly shorter than head, anterior and posterior margins sinuate, the lateral margins rounded, two distinct foveate impressions on disk which are anteriorly margined with a carinate line; mesonotum about twice the length of pronotum; anterior femora in male strongly incrassated, anterior tibiæ with a long robust spine before middle; anterior femora in female only moderately thickened, the anterior tibiæ unarmed; intermediate legs pilose; intermediate femora considerably longer than the posterior femora.

Allied to the genus *Hermatobates*, Carp.

2928. **Euratas formidabilis**, *Dist. A. M. N. H.* (8) v, p. 147 (1910).

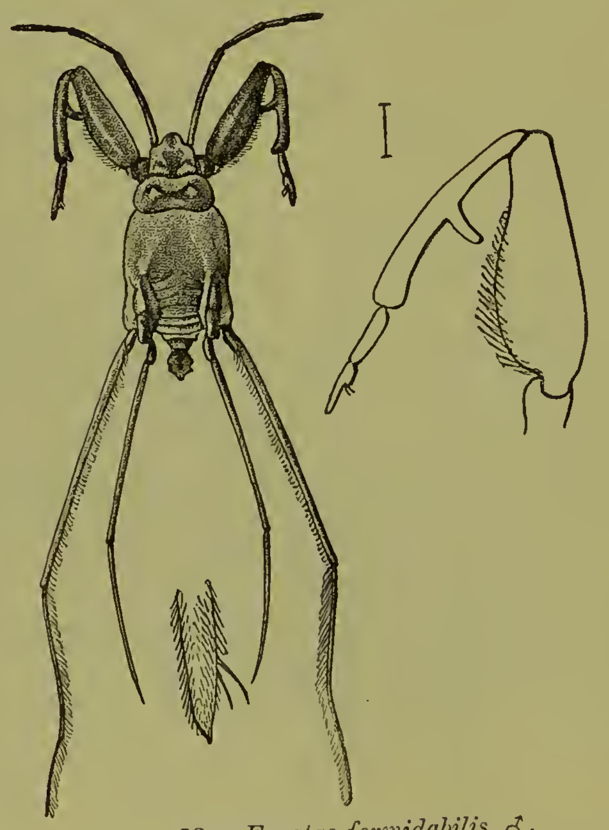

Fig. 82.—*Euratas formidabilis*, ♂.

Body above bluish, more or less finely greyishly pilose; antennæ

black, finely pilose, base of first joint pale ochraceous ; head with the apical and lateral areas pale greyish, basal margin transversely linearly ochraceous but centrally broken ; eyes castaneous brown, their basal margins dull ochraceous; pronotum with two discal pale foveations, the upper margins of which, and a central more or less connecting line, are black; apical half of abdomen above paler and more greyish in hue, the segmental margins darker; anal appendage blackish ; legs bluish, more or less greyishly pilose, the anterior legs beneath ochraceously pilose, the acetabula, abdomen beneath, and anal appendage more or less ochraceous; structural characters as in generic diagnosis.

Length, ♂ 5, ♀ 5 to $5\frac{1}{2}$ millim.

Hab. Andaman Sea (*Indian Marine Survey*, *Alcock*).

Genus **FABATUS.**

Fabatus, *Dist. A. M. N. H.* (8) v, p. 147 (1910).

Type, *F. servus*, Dist.

Distribution. Andaman Sea.

Head large, declivous in front, subquadrate, obtusely apically angulately produced and also distinctly angulate on each side above the insertion of the antennæ; eyes of moderate size, substylate, moderately emarginate at interior margins, a little projecting beyond the anterior margin of the pronotum ; antennæ with the first joint longest, a little shorter than the anterior tibiæ, third shortest, second and fourth subequal in length ; rostrum short, robust, not passing anterior coxæ ; pronotum shorter than head, transverse, the lateral margins moderately rounded, posterior margin a little concave; mesonotum elongate, convex, slightly more than twice the length of pronotum ; anterior legs slightly thickened, more so in the male than in the female; anterior tibiæ apically inwardly spinous and in the male with a strong, robust spine near middle, in female unarmed ; intermediate and posterior legs slender, intermediate considerably longer than the posterior; the intermediate tibiæ very strongly curved; intermediate tarsi much longer than the posterior tarsi.

The only known species of this genus in general appearance somewhat resembles the marine species represented by *Halobates*, but differs by the emarginate inner margins of the eyes ; it is, however, a truly marine species and I retain it in the Halobatinaria. I have as yet only seen undeveloped forms, collected by Lieut.-Col. Alcock on the Indian Marine Survey.

2929. **Fabatus servus**, *Dist. A. M. N. H.* (8) v, p. 147 (1910).

Head ochraceous with a broad central longitudinal spot and a linear longitudinal spot on each side, black, the base greyish white, the apex blackish ; eyes ochraceous or brownish ochraceous ; antennæ castaneous brown, the base of first joint much paler, the fourth joint darker ; pronotum greyish white, with a large

transverse purplish brown spot in each lateral area; mesonotum greyish white, with a broad longitudinal purplish brown fascia in each lateral area; abdomen above greyish white, with transverse segmental purplish brown spots; body beneath greyish white;

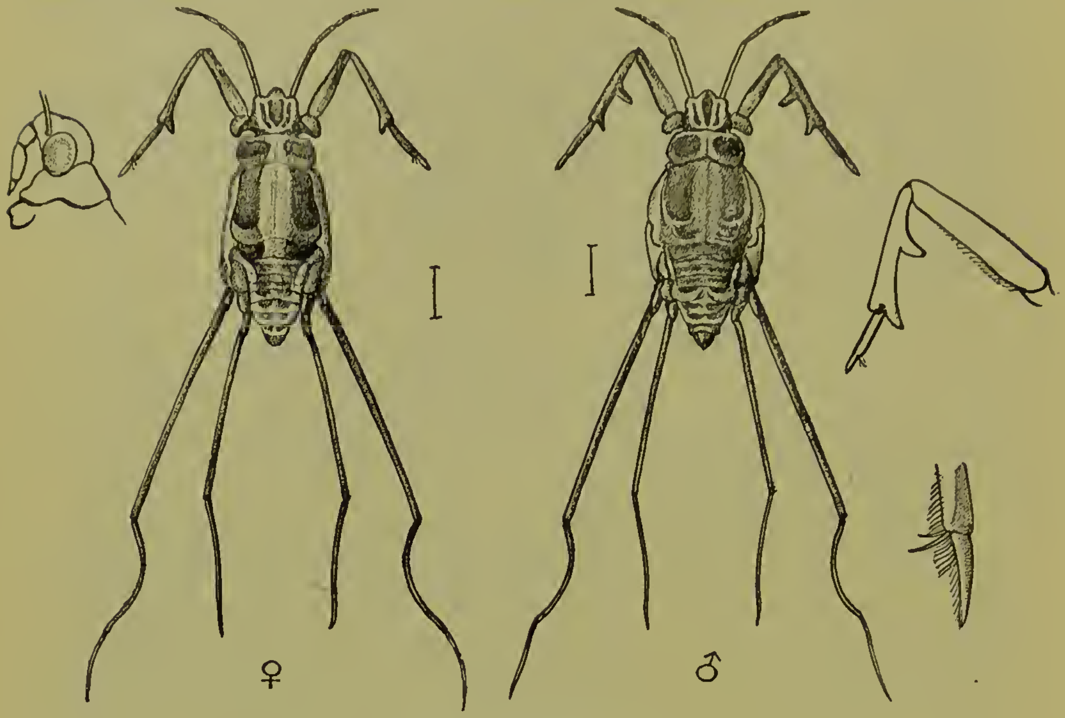

Fig. 83.—*Fabatus servus.*

rostrum castaneous brown, the basal joint ochraceous; legs dark castaneous brown or shining piceous, bases of anterior femora broadly pale ochraceous; structural characters as in generic diagnosis.

Length $4\frac{1}{2}$ to 5 millim.

Hab. Andaman Sea (*Indian Marine Survey, Alcock*).

Genus VENTIDIUS.

Ventidius, *Dist. A. M. N. H.* (8) v, p. 149 (1910).

Type, *V. aquarius*, Dist.

Distribution. At present only known from Travancore.

Head longer than broad, roundly truncate anteriorly; eyes large, oblique, their inner margins rounded, directed backward beyond the anterior margin of the pronotum; antennæ with the first and second joints distinctly and somewhat longly hirsute, second joint less prominently hirsute than the first which is about as long as the anterior femora, second and third subequal in length, each a little longer than the fourth; pronotum about as long as breadth between the pronotal angles, the lateral margins oblique, the anterior narrowing to head, the posterior narrowing to apex, which is broadly obtusely angulate; hemelytra passing the

abdominal apex ; rostrum short, scarcely passing the anterior coxæ; legs slender, anterior femora about as long as the anterior tibiæ, inwardly a little spinous at apices, intermediate femora longer than posterior femora. (Macropterous form.)

In the apterous or undeveloped form the pronotum is considerably shorter than broad.

Allied to *Metrocoris*, but with the body shorter and broader, and with hirsute antennæ.

2930. **Ventidius aquarius,** *Dist. A. M. N. H.* (8) v, p. 150 (1910).

Macropterous form.—Head and pronotum ochraceous, the latter with a large cruciform fascia and the sublateral and apical margins black; eyes black; antennæ black, base of first joint ochraceous;

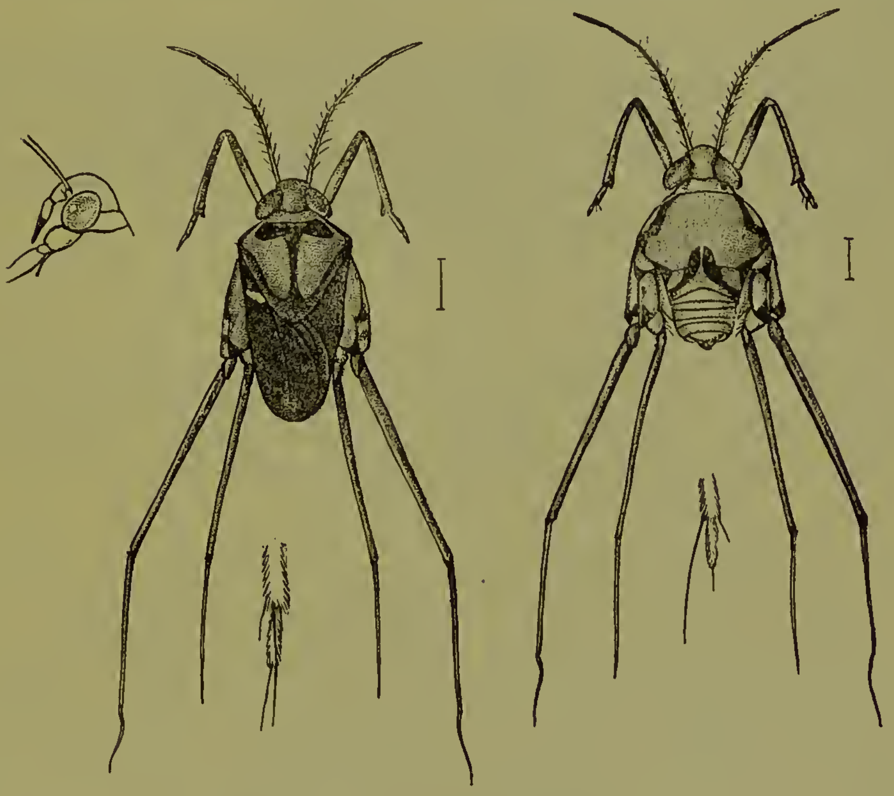

Fig. 84.—*Ventidius aquarius.*

hemelytra black; body beneath ochraceous; legs and apex of rostrum black, bases of anterior femora ochraceous; acetabula and coxæ spotted with black; structural characters as in generic diagnosis.

Apterous form.—Body above ochraceous; pronotum with a narrow sublateral fascia, angulated and reaching margin at humeral angle, and two spots at centre of posterior margin continued obliquely across mesonotum, black, other markings generally as in

macropterous form ; abdomen above ochraceous with the segmental margins black.

Length, macropt. form 5; apt. form $4\frac{1}{2}$ millim.

Hab. Travancore; Pallode, 20 miles N.E. of Trivandrum (*Annandale*).

"On roadside jungle-stream" (*N. Annandale*).

Genus **METROCORIS**. (Vol. II, p. 188.)

METROCORIS STALI. (Vol. II, p. 190.)

The description previously given was after Dohrn and referred to the apterous form of the species. Since then from large collections that have passed through my hands I am now able to largely extend its distribution and describe the macropterous form.

Macropterous form.—Head as in apterous form of the species; pronotum ochraceous, with a broad central longitudinal fascia (not reaching apex), on each side a broad moderately curved longitudinal fascia (united posteriorly but not reaching anterior margin), and the anterior margin, which is dilated backwardly and maculately on each side, black; hemelytra black.

This is the form described by Mayr under the name of *M. brevis*.

Add: *Hab.* Sikhim; Gangtok, 6150 ft., Shamaang, 3000 ft. (*Ind. Mus.*), Kurseong, 5000 ft. (*Ind. Mus.*). United Provinces; Sath Tal, Kumaon, 4000 ft. (*Annandale*) Nepal; Pharping, Katmandu (*Ind. Mus.*). Ceylon; Haputta (*Green*), Madulsima, Bandarawela, Maskeliya (*Bainbrigge-Fletcher*).

2931. **Metrocoris nepalensis**, *Dist. A. M. N. H.* (8) v, p. 148 (1910).

Head ochraceous, with a large central oblong black spot; antennæ black, base of first joint broadly pale ochraceous; pronotum black, with two curved transverse ochraceous lines on posterior margin; mesonotum black, the lateral margins and two discal angularly curved narrow fasciæ ochraceous; body beneath black with silvery white pubescence; legs black; coxæ, trochanters, a longitudinal streak to anterior femora above, bases of anterior femora beneath, and apex of abdomen beneath, ochraceous; rostrum ochraceous, its apex black and reaching the anterior coxæ; antennæ with the first joint long, only a little shorter than the anterior tibiæ, second joint a little more than half the length of first (remaining joints mutilated in typical specimens); anterior tibiæ distinctly inwardly spinous at apex; intermediate femora slightly longer than posterior femora; body above shortly and a little more palely pilose.

Length $4\frac{1}{2}$ to 5 millim.

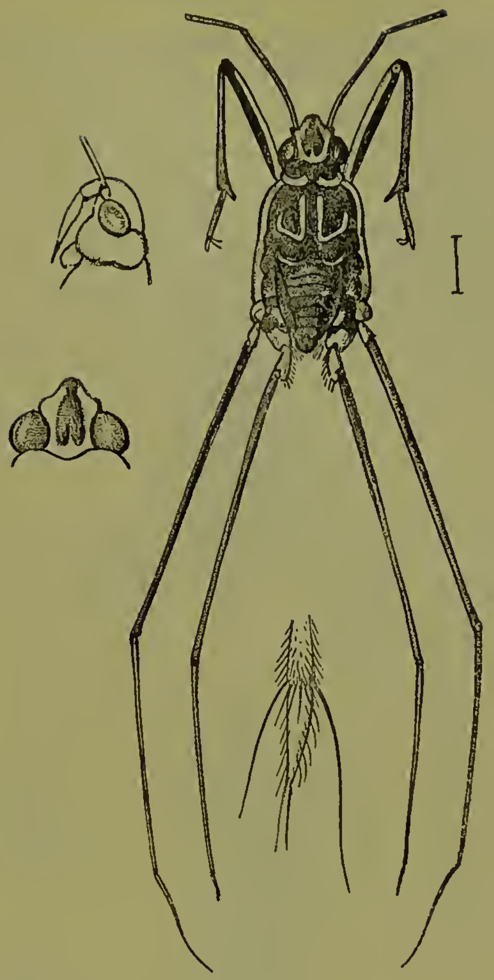

Fig. 85.—*Metrocoris nepalensis.*

Hab. Nepal; Katmandu and Soondrijal (*Annandale*).
I have not seen a macropterous form of this species.

2932. **Metrocoris nigrofasciatus**, *Dist. Fascic. Malay Zool.* i, p. 257, pl. xv, f. 9 (f. aptera) (1903).

Apterous form.—Ochraceous; a discal spot on head, eyes, anterior and posterior margins, and a central longitudinal fascia to pronotum, the last extending over the mesonotum, which has also two slightly curved fasciæ on each lateral area of its anterior half and two sinuate transverse fasciæ crossing its posterior half which are united a little before lateral margins, margins of abdominal segments above, a longitudinal lateral basal marginal line to abdomen beneath, a small linear spot at base and apex of intermediate coxæ beneath, a longitudinal fascia to posterior coxæ above, two longitudinal fasciæ to anterior femora above, anterior tibiæ and tarsi, antenniferous tubercles, antennæ (excluding base), a spot at base and the apex to rostrum, black; intermediate and posterior legs somewhat brownish ochraceous. Ovate, widest behind the middle; head broadly convex; anterior femora stout, moderately curved, with a stout tuberculous tooth near apex;

anterior tibiæ stout, about as long as femora; intermediate femora longer and a little stouter than the posterior femora.

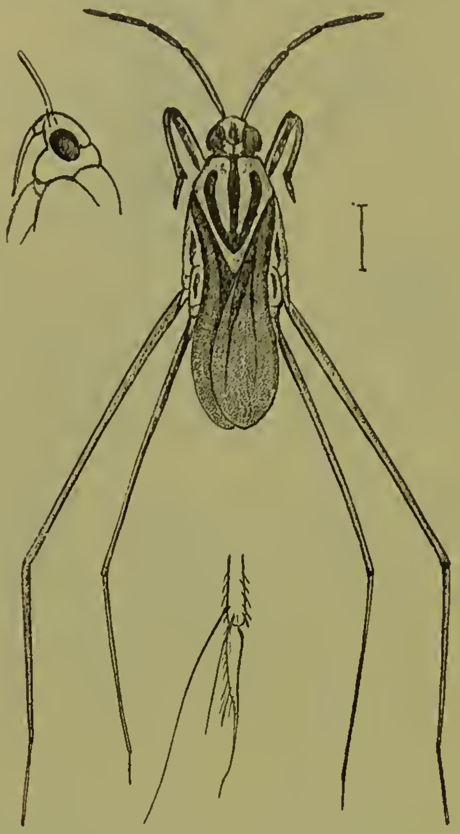

Fig. 86.—*Metrocoris nigrofasciatus*, var.

Macropterous form.—Hemelytra black; pronotum with the lateral fasciæ transversely united anteriorly in typical form, not transversely united in varietal form figured above.

Length, apt. form, ♂ 6; macropt. form, 5½ to 6 millim.

Hab. United Provinces; Bhura, Naini Tal (*Ind. Mus.*). Lower Burma; Dawna Hills, 2000–3000 ft. (*Annandale*). Malay Peninsula; Siamese States (*Annandale*), Pahang (*Craddock, Coll. Dist.*).

I originally described and figured the apterous form of the species; I now possess macropterous forms from Pahang (its first known province) and both forms from India.

Genus GERASTRATUS.

Gerastratus, *Dist. A. M. N. H.* (8) v, p. 148 (1910).

Type, *G. foveatus*, Dist.

Distribution. Northern India.

Head about as broad as long, the apex transversely rounded, the disk between the eyes strongly roundly foveate; eyes with the inner margins truncately rounded, moderately produced posteriorly over the lateral margins of the pronotum; front of head perpendicularly depressed to rostrum, which is short, stout, and

not passing the anterior coxæ; antennæ moderately long, first joint a little curved and about as long as the anterior tibiæ, second, third, and fourth joints subequal in length, second and third together only a little longer than first; pronotum short, considerably shorter than head, the lateral margins oblique, the posterior margin truncate; mesonotum more than twice as long as pronotum; anterior femora a little thickened, longer than the tibiæ, which are inwardly spinous at apex; intermediate and posterior femora almost equal in length, the intermediate longer than the posterior tibiæ; posterior tarsi about half the length of posterior tibiæ.

Allied to *Metrocoris,* from which it differs by the structure of the head.

2933. **Gerastratus foveatus,** *Dist. A. M. N. H.* (8) v, p. 149 (1910).

Head ochraceous, a large black spot in front of the discal

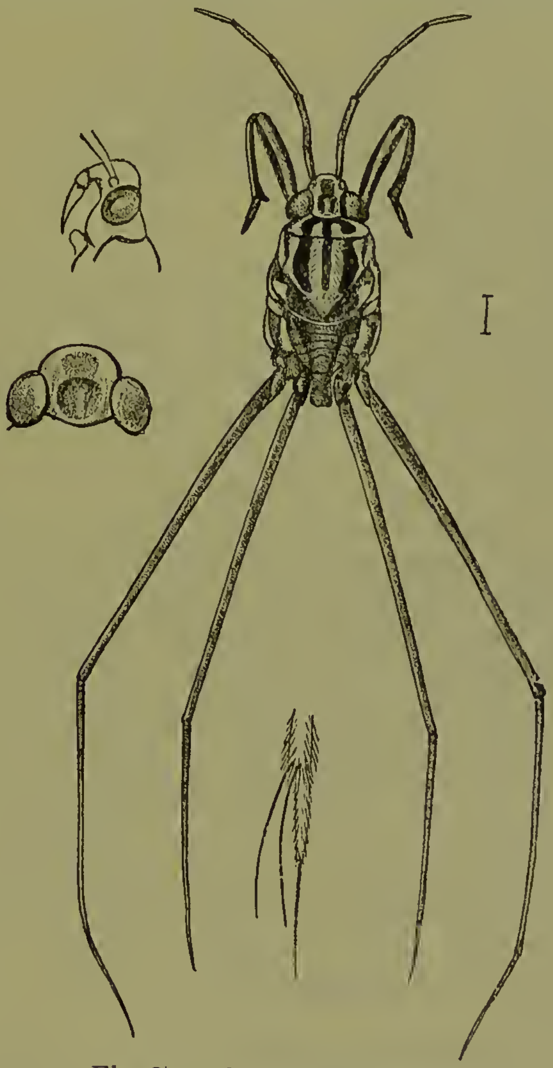

Fig. 87.—*Gerastratus foveatus.*

foveation which is inwardly margined with black; antennæ black, the basal joint ochraceous at base; eyes black, brownish ochraceous

at base; pro- and mesonota ochraceous; pronotum anteriorly, sublaterally, and centrally longitudinally black; mesonotum with three longitudinal black fasciæ not reaching the posterior margin, the central fascia straight, the other two broader and slightly curved, a more obsolete black fascia on each lateral margin; body beneath ochraceous; anterior femora ochraceous broadly outwardly streaked with black, anterior tibiæ and tarsi black, intermediate and posterior legs black, intermediate femora beneath streaked with ochraceous, coxæ and trochanters ochraceous with black markings; abdomen above black, with a large longitudinal lateral ochraceous spot and with a small spot of the same colour above the insertion of the intermediate legs; structural characters as in generic diagnosis.

Length $3\frac{1}{2}$ millim.

Hab. Kumaon; Bhim Tal, 4500 ft. (*Annandale*).

A single apterous specimen taken by Dr. Annandale and now in the Indian Museum.

Genus **EUODUS**.

Euodus, *Dist. A. M. N. H.* (8) v, p. 150 (1910).

Type, *E. communis*, Dist.

Distribution. Northern India.

Head slightly longer than broad, the angles in front of eyes slightly prominent; eyes oblique, their inner margins rounded, moderately extending over the lateral margins of the pronotum; antennæ with the first joint longest, a little curved, shorter than the anterior tibiæ, second and third joints about equal in length, each shorter than first and longer than fourth; rostrum slightly passing the anterior coxæ; pronotum short, shorter than head, narrower than mesonotum, the lateral margins a little rounded, posterior margin truncate and very slightly sinuate; mesonotum large, posteriorly widened, nearly twice broader at base than long, centrally longitudinally impressed, the anterior angles distinctly projecting beyond the pronotum, the lateral margins oblique, the basal margin truncate, laterally obliquely subangularly rounded to humeral angles, the basal area with two transverse, curved carinate lines, the anterior one laterally continued upward; abdomen above, in male, with the margins upwardly laminately produced and reflexed, the lateral margins convexly produced, the posterior segmental margin before the anal appendage truncately sinuate; anterior femora a little longer than anterior tibiæ, which are unarmed in both sexes, intermediate femora a little longer than posterior femora, the intermediate tibiæ distinctly longer than the posterior tibiæ.

Allied to *Metrocoris*, from which it differs by the shorter and broader mesonotum, the different structure of the abdomen above, different shape of the head, &c.

2934. **Euodus communis,** *Dist. A. M. N. H.* (8) v, p. 151 (1910).

Body above brownish ochraceous; head with a broad central longitudinal black fascia; eyes and antennæ black; pronotum with three longitudinal black fasciæ, the central straight, the other two oblique, all three anteriorly connected by a transverse black

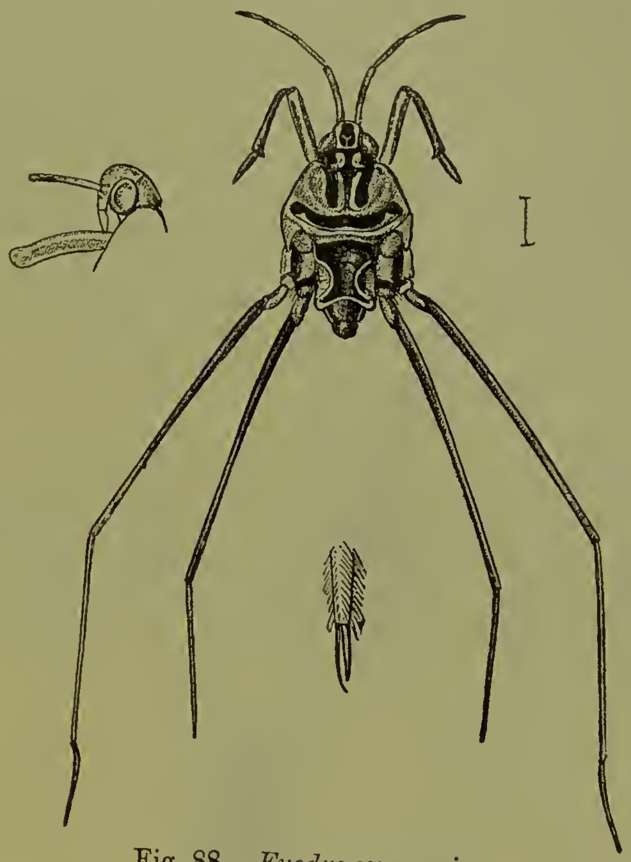

Fig. 88.—*Euodus communis.*

line; mesonotum with three central longitudinal black fasciæ, not reaching base, the central fascia straighter and narrower, between the transverse carinate lines a curved sub-basal black fascia not quite reaching the humeral angles; abdomen above blackish; body beneath pale ochraceous; legs blackish; large spots to intermediate and posterior acetabula pale ochraceous; coxæ and trochanters more or less brownish ochraceous; anterior femora longitudinally fasciated with pale ochraceous; structural characters as in generic diagnosis.

Length 4 to $4\frac{1}{2}$ millim.

Hab. Kumaon; Sath Tal, 4000 feet (*Annandale*).

Genus NABOANDELUS.

Naboandelus, *Dist. A. M. N. H.* (8) v, p. 151 (1910).

Type, *N. signatus*, Dist.

Distribution. Bengal.

Body short and broad; head about as long as breadth between

eyes, which are rounded, not inwardly emarginate but somewhat truncate, scarcely projecting over the anterior angles of the pronotum; antennæ moderately robust, first joint longest, longer than head, moderately curved, second, third, and fourth joints al ost subsequal in length; rostrum reaching the anterior coxæ; pronotum short and transverse, considerably shorter than head, the an erior margin truncate, the posterior margin moderately convex; m sonotum more than twice as long as pronotum, nearly twice as broad at base as long, the lateral margins convexly rounded and narrowing towards pronotum; abdomen in female about as long as pro- and mesonota together, in male a little longer; anterior femora a little longer than the tibiæ, the tarsi robust and only a little shorter than the tibiæ, intermediate legs much longer than the posterior legs, the femora almost subequal in length and shorter than the body, the intermediate tibiæ longer than the femora and much longer than the posterior tibiæ.

All the specimens which I have seen are apterous.

2935. **Naboandelus signatus**, *Dist. A. M. N. H.* (8) v, p. 152 (1910).

Black; thickly, shortly pilose; head with the anterior and inner margins greyish, the inner ocular margins connected at basal margin, ochraceous; pronotum with a large central ochraceous spot; lateral margins of mesonotum greyish; body beneath

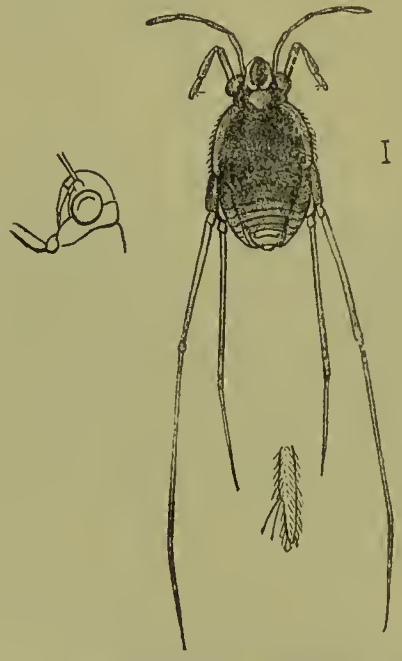

Fig. 89.—*Naboandelus signatus.*

bluish; rostrum (excluding apex), an elongate spot at posterior acetabula, and the anal segment and appendage ochraceous; legs and apex of rostrum black, more than basal halves of femora

ochraceous; lateral margins of the mesonotum somewhat longly pilose; structural characters as in generic diagnosis.

Length, ♂ and ♀, 2 millim.

Hab. Calcutta (*Ind. Mus.*).

This species was found in the Calcutta tanks.

Genus NACEBUS.

Nacebus, *Dist. A. M. N. H.* (8) v, p. 152 (1910).

Type, *N. dux*, Dist.

Distribution. India and Burma.

Body subelongate; head about as long as breadth between eyes, the apex broad and subtruncate, the lateral apical angles distinctly subprominent; eyes inwardly somewhat rounded or roundly truncate, not emarginate, not produced over the anterior margins of

Fig. 90.—*Nacebus dux.*

the pronotum; antennæ with the first and second joints stouter than third and fourth joints, first joint about as long as head, second shortest, only a little more than half the length of first, third and fourth subequal in length, each a little shorter than first; rostrum reaching the intermediate coxæ; pronotum very short, almost appearing only as a broad anterior collar; mesonotum three times as long as pronotum, the anterior and posterior margins truncate, the lateral margins a little roundly oblique; abdomen (excluding anal appendage) about as long as head and pro- and mesonota together, the anal appendage long and slender; anterior legs moderately stout, the femora twice as long as the

tibiæ; the anterior tarsi short, robust, about half as long as the tibiæ; intermediate legs much longer than posterior legs, intermediate femora nearly as long as body, the intermediate tibiæ a little shorter than the femora, intermediate tarsi about half the length of the tibiæ.

The above description is taken from a number of apterous forms received from different localities. *Nacebus* is allied to *Rhagadotarsus*, Bredd., from which it differs by the structure of the head and thorax.

2936. **Nacebus dux**, *Dist. A. M. N. H.* (8) v, p. 153 (1910).

Body above and beneath, antennæ, rostrum, and legs black; pronotum, anterior femora (excluding apices), acetabula, coxæ and trochanters ochraceous; disk of mesonotum and abdomen distinctly more opaque in coloration; structural characters as in generic diagnosis.

Length (incl. anal append.) 4 millim.

Hab. Calcutta. Lower Burma; Mudon, Amherst Distr. (*Annandale*).

At Calcutta this species was found in the tanks.

Family HENICOCEPHALIDÆ. (Vol. II, p. 193.)

Genus **HENICOCEPHALUS**. (Vol. II, p. 193.)

2937. **Henicocephalus barbatus**, *Bergr. Ann. Mus. Hung.* iv, p. 323 (1906).

Head, anterior and middle lobes of pronotum, and scutellum ochraceous, posterior pronotal lobe castaneous; eyes black; antennæ testaceous brown, third and fourth joints paler and more distinctly pilose; head beneath, sternum and anterior legs ochraceous; abdomen beneath, intermediate and posterior legs stramineous; hemelytra fuscous, distinctly pale ochraceous at base and basal third of subcostal margin; antennæ with the basal joint a little thickened at apex and slightly passing apex of head and a little

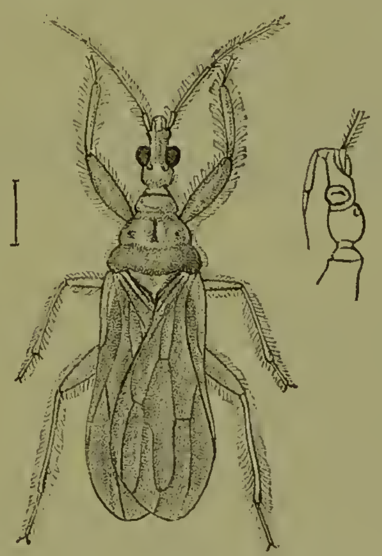

Fig. 91.—*Henicocephalus barbatus.*

longer than the head in front of antenniferous tubercles, longer than either third or fourth, the latter a little shorter than third; pronotum subequal in length to head, middle lobe centrally longitudinally impressed and on each side distinctly roundly foveately impressed; scutellum smooth, the apex moderately produced; anterior femora moderately thickened, anterior tibiæ slightly but distinctly dilated.

Length 6 millim.

Hab. Ceylon; Kandy (*Madarász, Mus. Hongrois*).

By the kind assistance of Dr. Horváth, the type is here figured.

2938. **Henicocephalus bellicus**, sp. n.

Head with the anteocular area piceous, postocular area castaneous, basal collar ochraceous ; pronotum black ; head beneath and sternum piceous ; abdomen beneath and legs pale ochraceous ; femora (excluding apices) more or less dull castaneous brown, tibiæ (excluding base) more palely of the same colour ; hemelytra black or piceous, base of corium and clavus and margins of membrane ochraceous ; scutellum ochraceous ; antennæ short, with the first and second joints piceous, third and fourth pale ochraceous, first joint not quite reaching apex of head, second longer than third, subequal in length to fourth ; rostrum ochraceous ; pronotum subequal in length to head, anterior lobe narrow, middle lobe wider than anterior but narrower than posterior lobe, the latter shorter than middle lobe and laterally subprominent ; anterior femora moderately thickened, anterior tibiæ towards apices distinctly dilated ; membrane reaching the abdominal apex.

Length 5 millim.

Hab. Ceylon ; Peradeniya (*Green*).

The short antennæ and pale margin of the membrane are aids to the identification of this species. A single example was sent to me by Mr. E. E. Green.

2939. **Henicocephalus mellinus**, sp. n.

Head, antennæ, rostrum, pronotum, scutellum, body beneath, and legs dull yellow ; hemelytra fuscous ; corium with the costal margin, more broadly near middle, dull yellow ; antennæ with the basal joint not reaching apex of head, second joint longest, considerably longer than either third or fourth joints ; head with the anterior area somewhat broad and (excluding apex) moderately infuscate, posterior area with the lateral margins somewhat strongly convex, basal collar large, distinct and paler in hue ; pronotum subequal in length to head, anterior lobe short with two distinct central callosities, middle lobe convex, sculptured, very much longer and under than anterior and distinctly longer and slightly narrower than posterior lobe ; scutellum with the margins ridged, its apex obtuse ; anterior femora moderately thickened ; anterior tibiæ dilated towards apex beneath where there is a distinct somewhat long spinule.

Length $4\frac{1}{2}$ millim.

Hab. Calcutta.

Family REDUVIIDÆ. (Vol. II, p. 196.)

Subfamily HOLOPTILINÆ. (Vol. II, p. 198.)

Genus PTILOCERUS. (Vol. II, p. 198.)

2940. **Ptilocerus umbrosus**, *Montand. Ann. Mus. Hung.* v, p. 418 (1907).

"Corium elongate, a little more than one-third of the total length of the hemelytra; marginal cell transparent, straight, long, at least three times longer than broad, hardly broader than the discoidal cell; membrane strongly darkened with a large pale marginal spot situated a little after the middle of the total length of the hemelytra and some small pale indistinct rounded spots near the disk; nervures indistinct, as in *P. unicolor*, Montand., a little more plainly prolonged behind, the aperture between the discoidal veins clearly directed towards the posterior border of the membrane, within the posterior external angle, forming a median apical cell not closed at the extremity, the smooth shiny vitreous part of the membrane behind the corium straighter, less transparent and less visible than in the preceding species [*P. unicolor* and *P. subreticulatus*, Montand.]." (*Montandon.*)

Length $7\frac{1}{2}$ millim.

Hab. Burma; Karen-ni (*Fea*). Sumatra (*Modigliani*, *Genoa Mus.*).

"This species somewhat resembles the figure given by Westwood (Thes. Entom. pl. xxxvi, f. 9) of his *Holoptilus burmanicus*, which is certainly a *Ptilocerus*, but in the drawing referred to, the veins of the corium appear of a very dark colour and prolonged behind on the vitreous space of the membrane behind the corium, and this vitreous space appears more enlarged than in *P. umbrosus*, in which the veins are less visible and which has besides two large pale spots on the margin, whilst it is entirely and almost uniformly dark in *P. burmanicus*, &c." (*Montandon.*)

2941. **Ptilocerus montandoni**, sp. n.

Fuscous grey, head with a few long porrect hairs on each side behind eyes, the whole upper surface also thickly coarsely pilose; antennæ with the second joint very longly setose on each side, longer than the other joints together, first joint short and globose, third and fourth joints more slender, the latter pyriform; pronotum thickly longly pilose, the anterior margin pale ochraceous, foveately impressed on each side near anterior angles, the outer margins of the foveations pale ochraceous, a distinct tubercle near

each posterior angle; scutellum obliquely and transversely pilose, its apex pale ochraceous; corium shorter than greatest length of membrane, longly pilose, a somewhat rounded black spot at inner angle, and a larger spot of the same colour at apical angle (the apical spots are inconstant in size in the same specimen, as may be

Fig. 92.—*Ptilocerus montandoni.*

seen in the figure, *supra*), before these spots the inner margin of the corium is distinctly pale greyish; membrane fuscous brown with small ochraceous spots; body beneath pitchy brown, lateral margins of the sternum more or less greyish; legs setose, the posterior tibiæ very longly and densely setose.

Length to apex of hemelytra, 5 millim.

Hab. Ceylon; Kandy (*Green*).

I have named this species after Dr. A. L. Montandon, who is now our greatest authority on this subfamily.

Genus **HOLOPTILUS.** (Vol. II, p. 199.)

2942. **Holoptilus flavus,** *Montand. Ann. Mus. Hung.* v, p. 423 (1907).

"Brownish yellow, very bright, fairly uniform, scarcely darker on the under surface of the abdomen; the hairs and the membrane paler, the latter whitish, a little darkened about the base at the internal edge, with a subtriangular, moderately dark brown spot behind the disk of the corium and three or four small spots of the same colour along the external border of the membrane. Head subquadrangular with the eyes very small, situate a little before the middle of the lateral edges, without apparent tubercle on the vertex, ornamented with fairly long pale somewhat sparce hairs directed forwardly; on each edge behind the eyes four more rigid hairs directed laterally and fan-like. Pronotum scarcely longer than the head, fairly contracted in front, the lateral margins sinuate behind the anterior third level with a transverse depression which traverses the breadth of the pronotum, almost forming a collar at the anterior area of the pronotum, glossy on the edges, with the anterior angles nearly straight, slightly rounded

on disk; the posterior area of the pronotum enlarged and laterally rounded, with the hairs sparse on the disk and a little more dense on the surrounding surface; scutellum inconspicuous, hidden under a series of stiff and fairly long hairs directed backwardly. Hemelytra somewhat strongly arcuate towards the external margin; corium occupying the basal third, very acuminate at the apex, with two long, subtransparent cells fairly visible, the external scarcely broader but twice longer than the internal, the veins of the same tint as the head and pronotum. Membrane passing the apex of the abdomen by a little more than a fourth of its length, whitish, with the base a little darkened between the white veins, especially on a longitudinal band a little enlarged dividing the internal angle of the membrane and a rather better indicated, subtriangular and somewhat irregular brown spot behind the apex of the corium beyond the small clear semi-vitreous band which borders narrowly and fairly regularly the base of the membrane along the internal edge of the corium; two or three small, brown, punctiform spots on the lateral external margin and two others scarcely better marked and a little elongated towards the apex. Antennæ with the second joint palely flavous, the pilosity fairly dense but not compact as in a brush, similar to that of the posterior tibiæ, rather long and paler than the teguments. Abdomen darkened beneath, more clear and yellow on the middle of the disk." (*Montandon.*)

"Length 5·4 millim from the apex of the head to the extremity of the membrane."

Hab. "India; Maissour Gathes" (*fide Montand., Mus. Paris*).

Subfamily EMESINÆ. (Vol. II, p. 200.)

Genus **PLOIARIOLA.** (Vol. II, p. 201.)

2943. **Ploiariola pygmæa**, *Dist. A. M. N. H.* (7) xviii, p. 363 (1906).

Head fuscous brown, the eyes black; antennæ creamy white with numerous fuscous spots or annulations; pronotum with the anterior lobe piceous, the posterior lobe fuscous, the former much irrorated with linear white markings and with its lateral margins ochraceous, the latter with its lateral margins and three central carinate lines (of which the central is incomplete and the two lateral meet anteriorly) creamy white, its posterior margin ochraceous; abdomen above fuscous, beneath greyish with fuscous spots; legs creamy white with fuscous spots or annulations; hemelytra creamy white with darker mottlings, on basal area the mottlings are fuscous and on costal margin there are fuscous spots; first joint of antennæ about as long as intermediate femora, second very little shorter than first; posterior femora about as long as the whole body; anterior area of pronotum a little shorter than the posterior area, pronotal margins slightly sinuate.

Length $3\frac{1}{2}$ millim.

Hab. Ceylon; Peradeniya (*Green*).

2944. **Ploiariola mixta,** *Dist. A. M. N. H.* (8) iii, p. 501 (1909).

Head cinnamomeous, clothed with a greyish pubescence; eyes black; antennæ pale stramineous; pronotum cinnamomeous; the anterior area and lateral margins speckled with greyish; body beneath and rostrum piceous, the apical joint of the latter pale

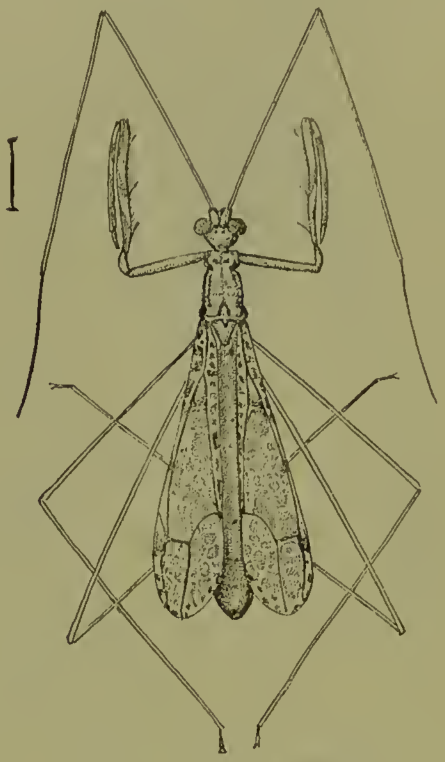

Fig. 93.—*Ploiariola mixta.*

stramineous; anterior legs pale cinnamon-brown, the femora and tibiæ annulated with pale greyish; intermediate and posterior legs pale stramineous; hemelytra greyish, thickly speckled and spotted with pale brownish, three prominent dark spots on costal margin, the first at about one-third from base, the second near middle, the third before apex; claval area thickly spotted; scutellum spined at base and apex.

Length 7 millim.

Hab. Ceylon; Peradeniya (*Green*).

Allied to *P. oculata*, Reut. (vol. ii. p. 202), but with the pronotum narrower and more elongate, intermediate and posterior legs unspotted, hemelytra much darker and altogether differently spotted and marked.

2945. **Ploiariola polita,** *Dist. A. M. N. H.* (8) iii, p. 502 (1909).

Head greyishly pubescent, finely spotted with black; antennæ mutilated in typical specimen; pronotum with the anterior area

greyish white spotted with black, the posterior area yellowish grey, with a central line, the lateral margins (narrowly), and the basal margin (broadly and sinuately) ochraceous; rostrum pale stramineous spotted with brown; prosternum chocolate-brown,

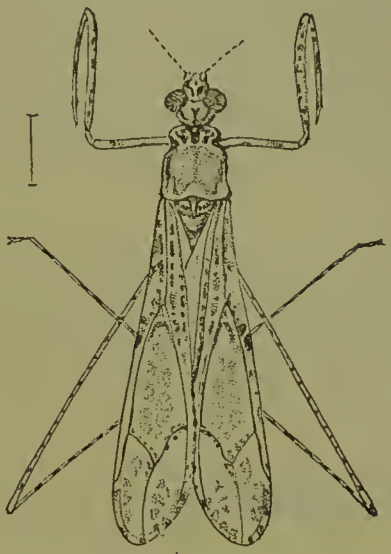

Fig. 94.—*Ploiariola polita.*

the margins ochraceous; meso- and metasterna black, greyishly tomentose; abdomen mutilated in typical specimen; anterior legs greyish, coxæ, femora and tibiæ spotted with brownish, intermediate and posterior legs thickly spotted with brownish; hemelytra pale greyish white, claval and basal areas, the basal divisional membranal veins, and the apical and inner margins spotted with brownish, the pale areas indistinctly and subobsoletely spotted; scutellum spined at base and apex.

Length 7 millim.

Hab. Ceylon; Hakgala (*Green*).

This is to be differentiated from the previous species and that enumerated and described in the second volume of this publication by the more subquadrate pronotum, the thickly spotted intermediate and posterior legs, and the very distinct pattern and markings of the hemelytra.

Genus **CALPHURNIA.**

(To follow *Ploiariola*, Vol. II, p. 201.)

Calphurnia, *Dist. A. M. N. H.* (8) iii, p. 502 (1909).

Type, *C. reticulata*, Dist.

Distribution. Calcutta; Ceylon.

Head with the postocular area considerably longer than the anteocular area, rounded, convexly narrowed at base, transversely constricted between the eyes, and with a more or less distinct basal collar; antennæ with the first joint as long or longer than the head, pronotum, and scutellum together, second joint a little

shorter than third; rostrum passing base of head, basal joint reaching but not passing eyes; pronotum elongate, narrowed anteriorly, with a prominent anterior lobe distinctly divided above and beneath; scutellum not spined; hemelytra with the corium distinctly transversely veined, the central membranal veins posteriorly and lobately united, membrane slightly passing the abdominal apex; anterior coxæ shorter than the femora, which are again longer than the tibiæ; intermediate and posterior legs long and slender; anterior tarsi three-jointed; legs in typical form somewhat longly spinulose, but this does not appear to be a constant character.

This genus has a superficial resemblance to *Ploiariola*, from which it differs by the different shape of the head, the distinct anterior lobe of the pronotum, the non-spinous scutellum, the transversely veined corium, and the distinctly veined membrane, &c.

2946. **Calphurnia reticulata**, *Dist. A. M. N. H.* (8) iii, p. 503 (1909).

Body and legs pale ochraceous; hemelytra greyish white, the venation fuscous; membrane with the basal area speckled with plumbeous and its apical and inner area spotted with the same

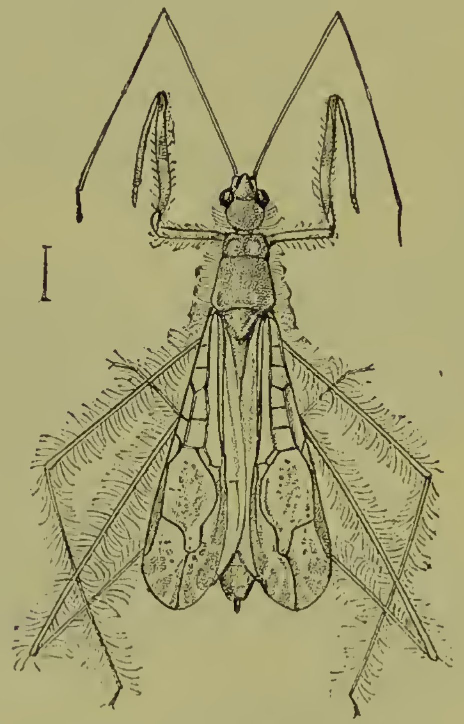

Fig. 95.—*Calphurnia reticulata.*

colour; antennæ a little darker and more brownish in hue, first joint subequal in length to that of the head, pronotum and scutellum together, second joint a little shorter than third; head

distinctly transversely impressed between eyes and slightly pedunculate at base; pronotum with the anterior lobe about half the length of posterior lobe, which is moderately widened towards base; anterior coxæ faintly and anterior femora distinctly annulated with brownish near apex, intermediate and posterior legs distinctly finely spinulose; hemelytra scarcely passing the abdominal apex; other structural characters as in generic diagnosis.

Length 5 millim.

Hab. Calcutta. Ceylon; Peradeniya (*Green*).

2947. **Calphurnia? aberrans,** *Dist. A. M. N. H.* (8) iii, p. 503 (1909).

Body and legs pale greyish brown; hemelytra greyish white, somewhat thickly spotted and speckled with plumbeous, the venation fuscous; antennæ with the first joint about as long as the intermediate femora, second joint shorter than first but much longer than third; head narrowed at base, but not distinctly pedunculate, transversely compressed between the eyes; pronotum

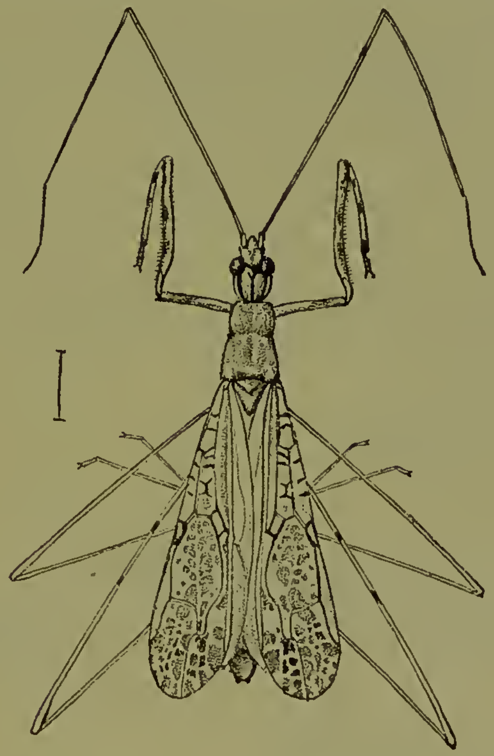

Fig. 96.—*Calphurnia? aberrans.*

with the anterior lobe more than half the length of the posterior lobe, which is a little widened towards base; apex of anterior coxæ and annulations to anterior femora and tibiæ brownish, posterior femora with two blackish annulations—one before, the other near middle; legs not spinulose; hemelytra slightly passing

the abdominal apex; sternum and head beneath more or less piceous.

Length 6½ millim.

Hab. Ceylon; Peradeniya (*Green*).

This species, by the longer antennæ and different proportional length of joints, the longer anterior pronotal lobe, and the non-spinulose legs, differs from the typical form of the genus as represented by *C. reticulata*. The distinct venation of the hemelytra is, however, maintained, and I have provisionally included it in *Calphurnia*.

Genus **BAGAUDA**. (Vol. II, p. 207.)

2948. **Bagauda splendens**, *Dist. A. M. N. H.* (7) xviii, p. 364 (1906).
Baguada decorus, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 301.

Ochraceous; head and anterior margin of pronotum piceous eyes, posterior lobe of pronotum, scutellum, membrane, anterior femora (excluding base), anterior tibiæ, and apical area of abdomen beneath, black; scutellum with two discal ochraceous lines; corium longitudinally castaneous brown between the veins and with a pale creamy patch before the membrane, the latter with a central pale vein; pronotum more than twice as long as head, the anterior lobe constricted and longer than posterior lobe, which is gibbous, with a central longitudinal narrow ridge, and with a nodule near each posterior angle, its basal margin sinuate; first joint of antennæ about as long as the intermediate femora and much longer than the second joint; corium transversely striate in each lateral area; posterior femora about as long as entire body, intermediate and posterior femora annulated with creamy white at apices.

Length 12 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus **GUITHERA**.

Guithera, *Dist. A. M. N. H.* (7) xviii, p. 364 (1906).
? Lutevula, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 303.

Type, *Luteva feana*, Dist. (vol. ii, p. 209, fig. 147).

Distribution. Burma, Ceylon.

Head suboval, convex above and beneath, subequal in width to apex of pronotum, narrower in front of eyes than behind; rostrum with the second joint slightly longer than first, shorter than third; first joint of antennæ about twice as long as pronotum; pronotum less than twice the length of head, above mesonotum outwardly produced, base only slightly wider than apex, medially constricted, basal margin not sinuate; scutellum subtriangular; hemelytra

reaching or just passing abdominal apex; anterior femora moderately incrassated, beneath finely spinose, basal spines most prominent, anterior tibiæ and tarsi united shorter than femora, the tarsus single-jointed; anterior coxæ a little more than half the length of anterior femora, posterior femora a little longer than the abdomen.

Allied to *Bagauda*, Bergr.

2949. **Guithera hortensia,** *Dist. A. M. N. H.* (7) xviii, p. 364 (1906).
? Lutevula lutea, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 303.

Ochraceous; head, basal half of posterior lobe of pronotum, scutellum, extreme base of corium, and membrane piceous; antennæ castaneous brown; head scarcely longer than anterior lobe of pronotum; first joint of antennæ about as long as hemelytra and much longer than second joint; anterior lobe of pronotum longer than posterior lobe, the first semiglobose with a central longitudinal incised line, the latter with a nodule on each side of its anterior margin, the posterior angles subacute and subprominent, a little directed backward; corium transversely striate on each lateral area between the veins; membrane reaching abdominal apex; anterior coxæ a little more than half the length of anterior femora; posterior femora a little longer than the abdomen.

Length 8 millim.

Hab. Ceylon; Peradeniya (*Green*).

2950. **Guithera nubifera,** *Dist. A. M. N. H.* (7) xviii, p. 365 (1906).

Ochraceous; eyes black; corium and apical area of abdomen beneath fuscous brown; membrane pale brown with greenish iridescence; first joint of antennæ considerably longer than hemelytra, more than twice as long as second joint; pronotum strongly centrally channelled, posterior lobe with a nodule near each posterior angle; corium slightly piceous at extreme base; anterior coxæ considerably shorter than anterior femora; posterior femora as long as the whole body; antennæ very pale fuscous.

Length 8 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus **LUTEVA.** (Vol. II, p. 208.)

2951. **Luteva malayana,** *Dist. Fasc. Malay. Zool.* i, p. 258, pl. xvi, f. 2 *a* (1903).

Pale luteous; lateral margins of pro- and mesonota and the intermediate and posterior legs fuscous; hemelytra creamy white with a rather large pale slaty-coloured spot in the membranal

cellular spaces; eyes black; first joint of antennæ longer than abdomen, scarcely longer than second joint; hemelytra about reaching abdominal apex; posterior femora as long as body including head, considerably passing abdominal apex.

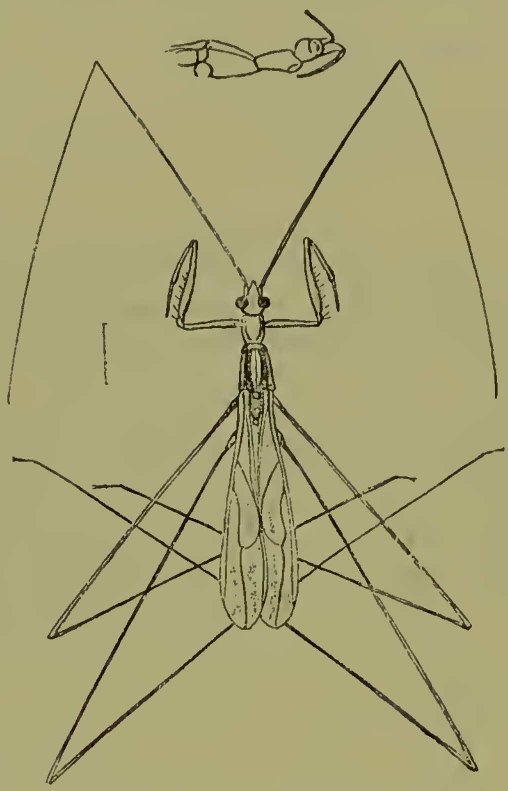

Fig. 97.—*Luteva malayana.*

Length 7 millim.

Hab. Ceylon; Peradeniya (*Green*).—Siamese Malay States (*Annandale & Robinson*).

Genus **ELYMAS**. (To precede *Plœaria*, Vol. II, p. 209.)

Elymas, *Dist. A. M. N. H.* (8) iii, p. 504 (1909).

Type, *E. præsentans*, Dist.

Distribution. Ceylon.

Head strongly narrowed at base, transversely impressed between eyes, anteocular a little shorter than postocular area; rostrum reaching the anterior coxæ, first joint short, not reaching eyes, second longest; antennæ long, slender, first joint longest, about as long as from apex of mesonotum to apex of abdomen, second joint shorter than first and about as long as abdomen; pronotum elongate, a little widened at apex and a little shorter than anterior coxæ; mesonotum laterally sinuate, moderately widened posteriorly; apterous; abdomen above with the lateral margins recurved and ridged, almost meeting on apical area, the

apical appendage globosely elongate and apically concavely excavate; anterior femora about one-third longer than the anterior coxæ, slightly attenuated at junction with trochanters, moderately sinuate on basal half, finely spinulose beneath for nearly their entire length; anterior tibiæ about half the length of the femora; anterior tarsi single-jointed, about one-fourth shorter than the tibiæ; intermediate and posterior legs long, slender, posterior femora slightly curved and nearly as long as the whole body, the tibiæ considerably longer than the femora, the posterior legs longer than the intermediate legs.

2952. **Elymas præsentans**, *Dist. A. M. N. H.* (8) iii, p. 504 (1909).

Body above brownish ochraceous; lateral margins of head

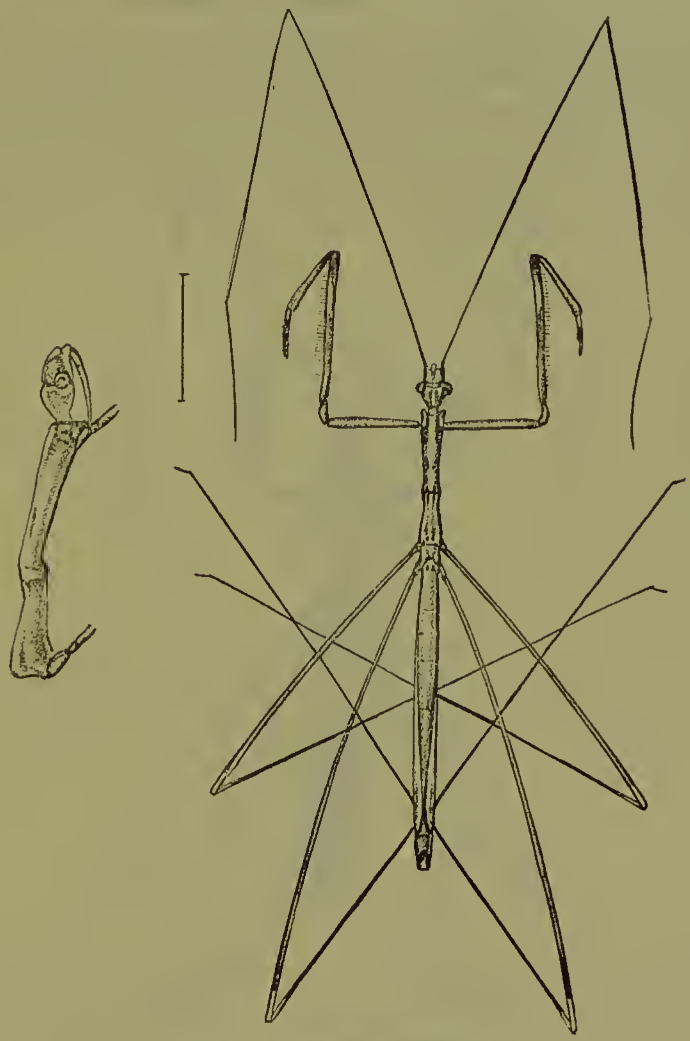

Fig. 98.—*Elymas præsentans.*

behind eyes, lateral margins of thorax above, lateral margins of abdomen above, and the anal appendage black; body beneath black; rostrum brownish ochraceous with black annulations; anterior coxæ and legs piceous, a subapical annulation to femora

and the base of the tarsi ochraceous; intermediate and posterior legs brownish ochraceous, becoming piceous towards apices, apices of femora and bases of posterior tibiæ, and a subapical annulation to intermediate tibiæ, pale greyish; antennæ piceous; structural characters as in generic diagnosis.

Length 12 millim.

Hab. Ceylon; Kandy (*Green*).

Genus PLŒARIA. (Vol. II, p. 209.)

2953. **Plœaria anak,** *Dist. A. M. N. H.* (8) iii, p. 505 (1909).

More or less pale ochraceous; vertex with a transverse fascia in front of eyes connected with two central lines extending to base, brownish ochraceous; a lateral longitudinal fascia on each side of pronotum and two short central lines to both meso- and metanota brownish-ochraceous; abdomen above with more or less distinct central longitudinal segmental lines, on each side of which

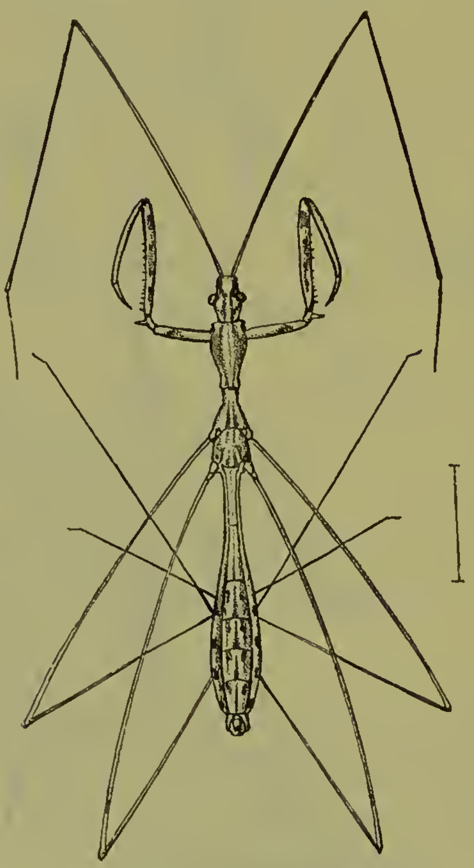

Fig. 99.—*Plœaria anak.*

are small dots, and spots to connexivum, fuscous; a spot near apex of anterior coxæ, two large lateral spots on each side of anterior femora, a spot on each side of base of rostrum, and an annulation to basal joint of same, fuscous brown; apical joints of rostrum

pale brownish; abdomen beneath with the lateral margins irregularly pale brownish; antennæ a little darker in hue, first and second joints subequal in length and each about as long as abdomen; rostrum with the basal joint passing eyes; pronotum elongate, about as long as meso- and metanota together, anteriorly roundly dilated, the anterior margin truncate; abdomen strongly attenuated at base, beyond basal segment gradually ovately widened and again narrowed towards apex; intermediate and posterior femora a little darker in hue with their apices pale ochraceous; anterior trochanters with a single strong prominent spine.

Length 11 millim.

Hab. Lucknow (*Aitken*).

Genus **GARDENA**. (Vol. II, p. 214.)

2954. **Gardena fasciata,** *Dist. A. M. N. H.* (8) iii, p. 505 (1909).

Head, pronotum and mesonotum chocolate-brown, pronotum with a broad sublateral greyish fascia on each side, mesonotum with three central greyish fasciæ, the central fascia broadest, the lateral fasciæ narrower; hemelytra greyish brown; head beneath

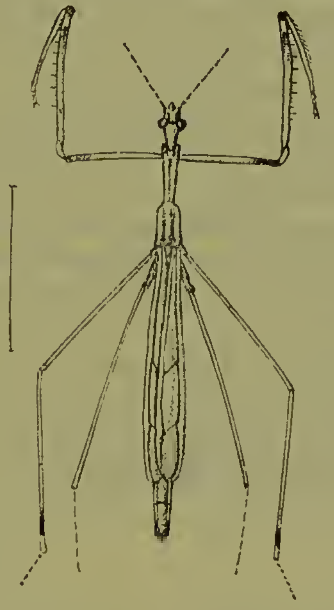

Fig. 100.—*Gardena fasciata.*

and sternum black, the latter greyishly tomentose; legs greyish brown, coxæ (excluding apices) and trochanters shining black; abdomen above and beneath greyish piceous; antennæ mutilated in typical specimen; head about as long as mesonotum, shorter than pronotum; hemelytra extending to the base of the penultimate abdominal segment; anterior femora palely annulate near apex, finely spinose beneath from about one-third from base, anterior tarsi three-jointed; rostrum reaching the base of the

anterior coxæ, basal joint incrassate, darker than the remaining joints; intermediate tibiæ apically palely annulate, intermediate and posterior tarsi mutilated in typical specimen.

Length 15 millim.

Hab. Ceylon; Peradeniya (*Green*).

I have only seen an incomplete specimen of this well-marked species.

Subfamily SAICINÆ. (Vol. II, p. 217.)

Genus **POLYTOXUS**. (Vol. II, p. 217.)

2955. **Polytoxus formidabilis**, sp. n.

Head very pale ochraceous; basal joint of antennæ ochraceous, about as long as posterior tibiæ, head strongly transversely impressed behind eyes; pronotum pale stramineous, posterior lobe much shorter than anterior lobe which is narrowed towards head, has its basal margin moderately concave and possesses an elongate foveation on each lateral area, posterior lobe with a long spine, shorter than pronotum, directed upwardly and forwardly on each posterior angle; scutellum with a long erect slightly backwardly directed spine, about as long as the pronotal spines; hemelytra very pale stramineous; head beneath and rostrum very pale ochraceous; sternum and abdomen pale stramineous, the disk of the latter piceous; legs pale ochraceous, anterior tibiæ strongly curved, anterior femora with a series of strong spines beneath.

Length 13 millim.

Hab. Madras Province; Kodaikanal, Palni Hills (*Coll. Dist.*).

This fine species, for which I am indebted to Dr. Montandon, is allied to *P. pallescens*, Dist., from which it differs by the much longer pronotal and scutellar spines and the more strongly spinous anterior femora.

Subfamily TRIBELOCEPHALINÆ. (Vol. II, p. 219.)

Genus **TRIBELOCEPHALA**. (Vol. II, p. 220.)

2956. **Tribelocephala orientalis**, sp. n.

Smaller than *T. indica*, Walk. (vol. ii, p. 220), the colour brownish ochraceous, not piceous; principally to be distinguished from Walker's species by the shorter and comparatively broader

hemelytra and the different shape of the cellular areas to the membrane, which are better shown by the accompanying comparative figures of the hemelytra of each species.

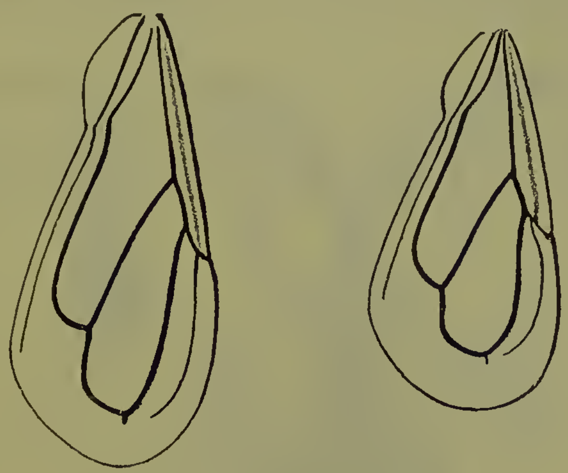

Fig. 101.—A. *Tribelocephala indica.*
B. *Tribclocephala orientalis.*

Length 10–10½ millim.
Hab. Bombay (*Coll. Dist.*). Ceylon; Peradeniya (*Green*).

Genus **OPISTHOPLATYS.** (Vol. II, p. 221.)

In the generic characters of this genus as previously given (*suprà*), it was stated "first joint of rostrum extending behind eyes." This though undoubtedly true of the species previously enumerated is not a character that is generically constant, as is evident from the description subsequently given of *O. cornutus.*

Opisthoplatys majusculus. (Vol. II, p. 221.)

Since describing this species I have seen many examples from different localities. It appears to vary only in size and this it does to a considerable extent, the smaller individuals being only 10½ millim. in length.
Length 10½–16 millim.
Add: *Hab.* Agra; Kumaon.—Philippine Islands.

2957. **Opisthoplatys cornutus,** *Dist. A. M. N. H.* (8) iii, p. 506 (1909).

Head, antennæ, pronotum, connexivum, body beneath, rostrum, and legs ochraceous; scutellum and corium fuscous brown, basal and apical angles of the latter ochraceous; membrane piceous black; eyes black; antennæ longly pilose, first joint about as long as anterior femora, second joint slightly longer than first, the antenniferous tubercles above produced in short, prominent,

slightly forwardly curved tuberculous spines; rostrum with the basal joint reaching but not passing eyes; pronotum with the anterior lobe only a little more than half the length of posterior lobe; scutellum granulose; corium distinctly longitudinally broadly ridged, the costal ridge more prominent and not quite

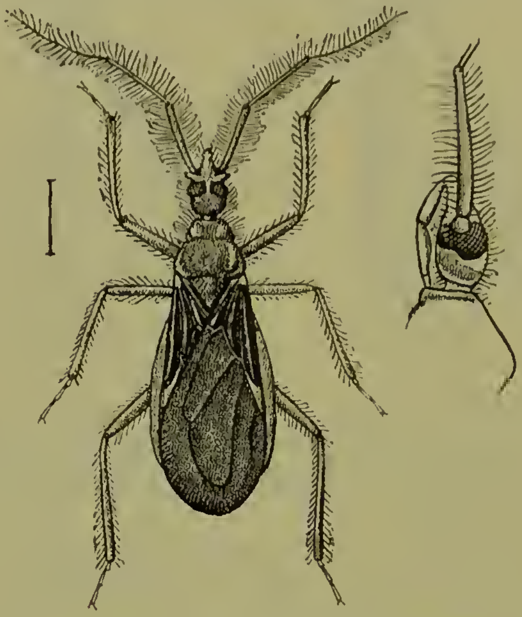

Fig. 102.—*Opisthoplatys cornutus.*

reaching apical angle, a second prominent discal ridge, and a subclaval less prominent ridge, between the ridges the colour is brownish ochraceous; membranal veins a little ochraceous at base.

Length 8 millim.

Hab. Travancore; W. Ghats, Tenmalai.

Genus APOCAUCUS.

Apocaucus, *Dist. A. M. N. H.* (8) iii, p. 506 (1909).

Type, *A. laneus*, Dist.

Distribution. Northern India.

Head with the anterior lobe moderately porrect and a little produced in front of eyes, but clothed with long curled hairs, somewhat flattened on disk but longly produced and apically curled downward at their apices on lateral and anterior margins; antennæ longly pilose, first joint about as long as head, second shorter than first, remaining joints very slender; rostrum reaching the anterior coxæ, first joint reaching eyes but not extending behind them; pronotum narrowed anteriorly, the basal area centrally sulcately impressed, on each side of which are two callosities making a transverse series of four in all, the central ones largest; scutellum callous at base; elytra longly passing the abdominal

apex; legs slender, pilose, intermediate and posterior tibiæ almost equally wide apart.

This very peculiar genus is to be readily separated from *Tribelocephala* and *Opisthoplatys* by the long fleecy clothing to the head.

2958. **Apocaucus laneus**, *Dist. A. M. N. H.* (8) iii, p. 507 (1909).

Head and pronotum castaneous brown, the long fleecy clothing to the former pale brownish; scutellum and elytra fuscous brown, the latter with the marginal areas paler; body beneath and legs

Fig. 103.—*Apocaucus laneus.*

pale castaneous brown, the femora paler and more brownish ochraceous; abdomen beneath smooth and shining; legs and antennæ finely pilose.

Length $5\frac{1}{2}$ millim.

Hab. E. Himalayas; Kurseong.

Closely resembles a *Monophlebus* on the wing (*N. Annandale*).

Subfamily STENOPODINÆ. (Vol. II, p. 222.)

Genus **SASTRAPADA**. (Vol. II, p. 224.)

SASTRAPADA BAERENSPRUNGI. (Vol. II, p. 224.)

Sastrapada bipunctata, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 304.

Genus **STACCIA**. (Vol. II, p. 225.)

STACCIA DILUTA. (Vol. II, p. 225.)

Staccia javanica, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 305.

Genus **AULACOGENIA**. (To replace **Diaditus**, Vol. II, p. 226.)

Aulacogenia, *Stål, Öfv. Vet.-Ak. Förh.* 1870, p. 700.
Diaditus (part.), *Dist.* (Vol. II, p. 226.)
Allomastix, *Bergr. Wien. Ent. Zeit.* xxv, p. 4 (1906).

Type, *A. acutangula*, Stål, from the Philippines.
Distribution. India and the Malay Archipelago.

Aulacogenia corniculata, *Stål, Öfv. Vet.-Ak. Förh.* 1870, p. 701
Bredd. Ann. Soc. Ent. Belg. 1909, p. 305.

Diaditus errabundus, *Dist.* (Vol. II, p. 226, f. 160.)
Allomastix errabundus, *Bergr. Wien. Ent. Zeit.* xxv, p. 4 (1906).

In describing and generically locating this species, I relied on the character given by Stål in his generic diagnosis "*tibiis compressis*," and had not then noticed that in a second species he had described the tibiæ as "*angustæ*." Breddin states that he has compared the Ceylonese form with *A. corniculata* and is satisfied with their identity. He appears to have been unaware that Bergroth (1906) had proposed a new genus for its reception, which is certainly, at least, of subgeneric rank.

Add : *Hab.* To Ceylon must now be added Java; Philippines.

Genus **ONCOCEPHALUS**. (Vol. II, p. 227.)

2959. **Oncocephalus aterrimus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 363 (1909).

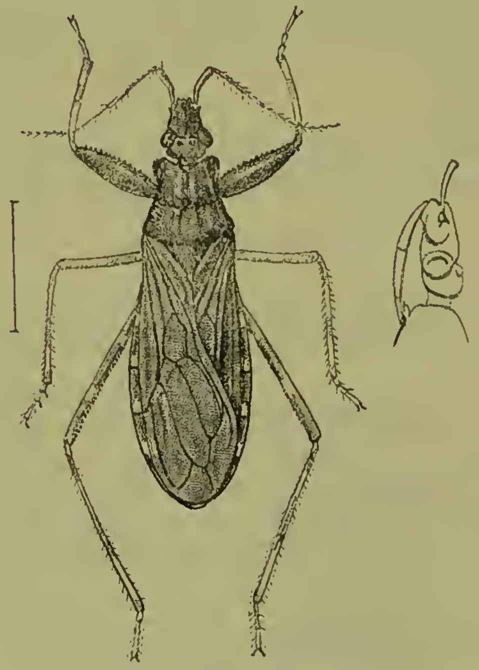

Fig. 104.—*Oncocephalus aterrimus.*

Black; spots to connexivum, a single annulation to intermediate

femora, two annulations to posterior femora, two annulations to all the tibiæ, tarsi, apices of coxæ and the trochanters ochraceous; head with the anterior lobe about twice as long as the posterior lobe, granulose, transversely impressed between the eyes, a short fine spine at base of antenniferous tubercles; first joint of antennæ outwardly curved, shorter than head, second joint twice as long as first and distinctly pilose; first joint of rostrum reaching eyes; pronotum granulose, with two more or less distinct central longitudinal levigate lines, the anterior angles shortly tuberculously prominent, the lateral margins of the prosternum visible on each side of the lateral margins of the anterior pronotal lobe, anterior lobe a little longer than posterior lobe; prosternum with two strong anterior spines; anterior femora strongly incrassate with a single row of small spines beneath; anterior tibiæ a little curved, about as long as the femora.

Length 12 millim.

Hab. Travancore; Tenmalai, W. Ghats (*Annandale*).

I have only seen a single specimen of this very distinct species.

Genus BARDESANES.

Bardesanes, *Dist. Ann. Soc. Ent. Belg.* liii, p. 363 (1909).

Type, *B. signatus*, Dist.

Distribution. Burma.

Head with the anteocular portion much longer than the postocular, with two horizontally depressed spines before the base of antennæ, the anteocular portion flat, the postocular somewhat convexly gibbous, transversely impressed between the eyes, immediately behind this impression are the ocelli, prominent and nearer to eyes than to each other; antennæ pilose, first joint about as long as pronotum and subequal in length to the second joint; rostrum reaching the anterior coxæ, first joint extending to the anterior margins of the eyes and a little shorter than the second joint; pronotum about as long as broad, concavely sinuately narrowed anteriorly where it is slightly wider than the base of head, the anterior lateral angles subprominent, the posterior angles distinctly shortly spinously prominent, the posterior margin subconvex, straightened before base of scutellum, the anterior margin truncate, moderately transversely depressed a little before middle; scutellum somewhat triangular, the apical spine moderately curved upwards; corium slender, not covering connexivum, its greatest length equal to the corresponding length of membrane which is large and broad, a large areole occupying the inner apical area of corium and reaching the membrane; eyes very large and almost meeting beneath the head; prosternum centrally longitudinally sulcate and posteriorly centrally triangularly dilated between the anterior coxæ; abdomen beneath with a fine central longitudinal carinate line; legs slender, anterior femora not thickened, anterior and intermediate femora about

equal in length and moderately curved; posterior legs long, the femora not quite reaching abdominal apex and shorter than the tibiæ; posterior tarsi with the second joint shorter than the third, posterior coxæ much wider apart than the intermediate coxæ, which are again more widely separated than the anterior coxæ.

A genus to be placed after *Caunus* (vol. ii, p. 233) in this British Indian enumeration.

2960. **Bardesanes signatus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 364 (1909).

Fuscous brown; eyes, a large spot between and behind ocelli, inner claval margins, the central areole of hemelytra, and a curved

Fig. 105.—*Bardesanes signatus.*

posteriorly attenuated elongate spot in middle cell of membrane, black; pronotum with narrow lateral margins and a central longitudinal linear fascia, single anteriorly and duplex posteriorly, piceous; tibiæ palely annulate near base, femora piceous brown at apex; head finely granulose, the ocelli bright golden-yellow; membrane very slightly passing abdominal apex; other structural characters as in generic diagnosis.

Length 14 millim.

Hab. Burma; Karen-ni (*Coll. Dist.*).

Subfamily ACANTHASPIDINÆ. (Vol. II, p. 243.)

Genus CENTROCNEMIS. (Vol. II, p. 245.)

2961. **Centrocnemis deyrollei,** *Sign. Ann. Soc. Ent. Fr.* 1852, p. 547 pl. xvi, f. 6; *Stål, En. Hem.* iv, p. 79 (1874).

Fuscous brown; scutellum, clavus, and membrane black; anterior lobe of pronotum and body beneath more or less piceous brown; legs more or less piceous brown, apices of anterior femora and bases of tibiæ ochraceous, anterior tibiæ (excluding about basal third), apices of intermediate and posterior tibiæ, and all the tarsi black; head granulose with the postocular longer than the anteocular portion, with a short fine spine near base of each antenna, a long robust spine in front of each eye, another shorter and more erect on the surface of each eye, and a short tuberculous

Fig. 106.—*Centrocnemis deyrollei.*

spine on each side of the ocelli; basal joint of antennæ shorter than head and somewhat coarsely granulate, second joint about as long as pronotum; pronotum granulately rugose, anterior lobe margined with tuberculous spines of which one at anterior angle is longer and more acute, and with two long erect spines on its disk, posterior lobe with the lateral margins dilated and outwardly produced, armed with four strong spines, three on apical margin (a short tubercle between the two uppermost), and one on upper margin, two strong erect tuberculous spines near base; scutellum sparingly granulose; margin of connexivum strongly, somewhat irregularly spined; rostrum robust, first joint very much longer than second but not reaching base of head; femora granulose and

spined beneath, the posterior femora less so, anterior tibiæ broad, compressed, lobately produced near middle.

Length 27–30 millim., breadth between pronot. angl. 10–12 millim.

Hab. Sylhet (*Vienna Mus.*).—Malay Peninsula, Sumatra, Java, Borneo.

Genus EPIRODERA. (Vol. II, p. 247.)

2962. **Epirodera bengalensis**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 364 (1909).

Black; anteocular portion of head, an oblong spot at apex of corium, rostrum, legs, and abdomen beneath ochraceous; femora and tibiæ more or less annulated with piceous; anteocular portion of head longer than postocular which is globose behind eyes; pronotum with the anterior lobe very strongly defined, the anterior

Fig. 107.—*Epirodera bengalensis.*

angles prominent, two central longitudinal ridges which are curved inwardly near middle; scutellum with the apex narrowly spatulate; membrane reaching abdominal apex; abdomen beneath with a sublateral segmental series of black spots on each side connexivum ochraceous, spotted with piceous.

Length 9 millim.

Hab. Bengal; Pusa.

Genus STESICHORUS.

Stesichorus, *Dist. A. M. N. H.* (7) xviii, p. 366 (1906).

Type, *S. pilosus*, Dist.

Distribution. Ceylon.

Body subovate; head strongly transversely impressed between eyes, which extend transversely across the lateral areas of the head, anteocular portion of head slightly depressed, a little longer than postocular portion; antennæ pilose, first joint shorter than head, second joint more than twice as long as first; pronotum

with the lobes subequal in length, anterior lobe much narrower than posterior, tuberculate at anterior angles, subconvex and centrally longitudinally sulcate, lateral margins of posterior lobe oblique; scutellum terminating in a semiporrect spine; membrane extending a little beyond abdomen, which beneath has a slight longitudinal central ridge, the lateral areas being oblique; legs pilose and body beneath pilose; anterior femora unarmed.

Allied to *Crociœus*, Bredd.

2963. **Stesichorus pilosus**, *Dist. A. M. N. H.* (7) xviii, p. 366 (1906

Head, pronotum, scutellum, and sternum black; corium ochraceous, with the basal angle, basal half of claval area, and apical angle black; membrane black, with a pale apical spot; antennæ, rostrum, legs, and abdomen beneath ochraceous, the latter with

Fig. 108.—*Stesichorus pilosus.*

the apical and lateral areas piceous; antennæ, rostrum, legs, and abdomen beneath strongly pilose.

Length 11 millim.

Hab. Ceylon; Eppawela (*Green*).

Genus **REDUVIUS.** (Vol. II, p. 250.)

2964. **Reduvius delicatula,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 364 (1909).

Head, pronotum, and scutellum castaneous brown; eyes black; antennæ brownish ochraceous; head beneath, rostrum, and sternum castaneous brown; abdomen beneath, legs, and connexivum ochraceous; corium brownish ochraceous, clavus (excluding inner margin) and the subclaval area to corium greyish white; membrane pale fuscous brown; antennæ with the first joint a little shorter than head and considerably shorter than second joint; head transversely impressed at posterior margins of eyes; anterior lobe of pronotum scarcely longer than posterior lobe, but narrower, more

globose and with the anterior angles shortly tuberculously prominent; posterior lobe with the basal angles obtusely broadly subangulate, but very slightly prominent; scutellum apically finely and somewhat longly porrectly spinous; rostrum with the basal joint reaching anterior margin of eyes, distinctly shorter than the second joint; membrane not quite but nearly reaching abdominal apex; connexivum exposed on each side of hemelytra; body and legs more or less finely longly pilose.

Length $8\frac{1}{2}$ millim.

Hab. Bengal; Chapra (*Mackenzie*).

Genus ISDEGARDES.

(To follow *Reduvius*, Vol. II, p. 250.)

Isdegardes, *Dist. Ann. Soc. Ent. Belg.* liii, p. 365 (1909).

Type, *I. melanocephalus*, Dist.

Distribution. Calcutta.

Head broad, transverse; eyes large, completely extending across the lateral areas of the head; antennæ with the basal joint much shorter than the head but extending a little beyond its apex, second joint slightly more than twice as long as first, slightly longer than third; ocelli prominent, central, slightly behind the posterior margin of the eyes; rostrum with the second joint much longer than the first; pronotum with the anterior lobe subquadrate, longer than the posterior lobe, the anterior angles laminately subangularly moderately prominent, centrally longitudinally impressed, posterior lobe less convex and wider than the anterior lobe, its lateral angles subprominent; scutellum subtriangular, a little foveately depressed before apex which is slender and acuminate; hemelytra elongate, their costal margins parallel, membrane reaching abdominal apex with three cellular areas, the middle largest, the apical narrow, elongate, subtriangular; anterior femora considerably thickened, obtusely broadly angulate beneath a little before middle; anterior tibiæ short, somewhat broadly compressed and curved; intermediate and posterior legs simple, posterior tibiæ very slightly curved.

This genus is more or less allied to *Reduvius*.

2965. **Isdegardes melanocephalus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 365 (1909).

Black; antennæ, pronotum, lateral margins of corium, rostrum, body beneath and legs, ochraceous; suffusions to sternum and a sublateral longitudinal fascia on each side of abdomen beneath, piceous black; first joint of antennæ shorter than head, second joint slightly more than twice as long as first and slightly longer than third; ocelli prominent and ochraceous; rostrum robust, second joint much longer than the first; pronotum with the anterior lobe subquadrate, the anterior angles prominent but not

spinous, centrally finely linearly impressed, the impression foveately widened on disk, posterior lobe a little shorter and wider than anterior lobe, the lateral angles subprominent; scutellum with the margins ridged, a little foveately impressed before apex;

Fig. 109.—*Isdegardes melanocephalus.*

membrane reaching the abdominal apex; anterior femora strongly incrassated.

Length $8\frac{1}{2}$ millim.

Hab. Calcutta.

Genus **ACANTHASPIS**. (Vol. II, p. 257.)

ACANTHASPIS BISTILLATA. (Vol. II, p. 260.)

Var. ACANTHASPIS PICINA, *loc. cit.*

This variety has recently been sent to me by Mr. Maxwell Lefroy from Pusa, Bengal. Stål originally described it from an unlocalized specimen in the British Museum, which may well have been also derived from Bengal.

To one of the Pusa specimens is attached a label "on pipal trunk."

ACANTHASPIS LINEATIPES. (Vol. II, p. 268.)

Since including this species, which I had not then seen, the following localities can be added:—

Hab. Sikhim and Mungphu (*Brit. Mus.*). Nicobar Islds.; Nankauri (*Rogers, Coll. Dist.*). Burma; Mayungo (*Bingham, Coll. Dist.*).

2966. **Acanthaspis bombayensis**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 366 (1909).

Black; antennæ, a discal longitudinal stripe on each side of head at inner margins of eyes and a small quadrate spot at base, posterior lobe of pronotum (excluding its anterior margin), a large spot to corium behind middle, spots to connexivum, rostrum, and legs ochraceous; bases and apices of femora more or less black (in the typical specimen the left anterior femur is almost wholly black); first joint of antennæ longly passing apex of head but shorter than the second joint; rostrum robust, basal joint reaching eyes; pronotum with the anterior lobe sculptured and greyishly pilose, the anterior angles very shortly conically prominent, the posterior lobe somewhat transversely rugulose, the posterior lateral angles shortly spinously produced, the spines directed backward; scutellum with a long obliquely erect spine the apex of which is ochraceous; membrane reaching the abdominal apex; body beneath and legs longly greyishly pilose; the spongy furrow on the anterior tibiæ a little more than one-third their length.

Length 13 millim.

Hab. Bombay Prov.; Igatpuri, W. Ghats.

Allied to *A. concinnula*, Stål.

To follow *A. concinnula* (vol. ii, p. 267).

Acanthaspis maculata, *Dist.* (Velitra). (Vol. II, p. 277.)

When I originally described this species it was from a carded specimen from Calcutta sent to me by the late Mr. Atkinson.

Fig. 110.—*Acanthaspis maculata.*

From an examination of this example it appeared to have the disk of the abdomen beneath distinctly flattened and I thus placed it in the genus *Velitra*. Since that time I have received

other and better specimens which enable me to locate it in the genus *Acanthaspis*, from which by the short basal joint of the antennæ and the broadly sulcated posterior lobe of the pronotum it appears somewhat divergent. In the former (antennal) character, it is, however, allied to *A. biguttula*, Stål (vol. ii, p. 272), near which it may be placed and from the description of which it differs by the annulated legs, different markings of the corium, larger size, &c. I have now figured the species to prevent any confusion. Mr. Maxwell Lefroy has sent me specimens from Pusa, Bengal, which were "taken at light."

Dr. Annandale has kindly let me see an immature ♀ specimen he described as *Physorhynchus coprologus*. It apparently belongs to the subfam. Acanthaspidinæ, to the genus *Acanthaspis*, and most probably represents *A. megaspila*, Walk.

Acanthaspis sp.

Physorhynchus coprologus, *Annand. Mem. Asiat. Soc. Beng.* i, p. 214, pl. xi, f. 3 (1906).

Body dull black, finely and obscurely pilose; antennæ, rostrum, tibiæ, and tarsi ferruginous; femora black; head with the anteocular part not or scarcely longer than the postocular; antennæ with the first joint a little shorter than head; rostrum with the first and second joints subequal in length; pronotum with the anterior section longer than the posterior; anterior tibiæ with an apical spongy furrow.

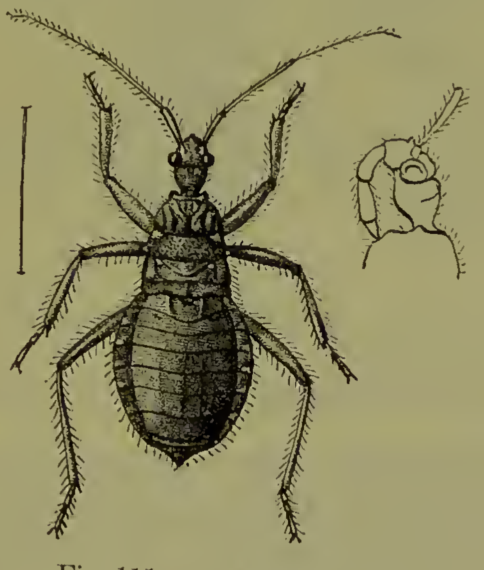

Fig. 111.—*Acanthaspis* sp.

Length 16 millim.

Hab. S. India; Ramánád (*Annandale*).

"A single specimen taken at Ramánád in a manure-heap in a garden." (*Dr. Annandale.*)

Genus **EDOCLA**. (Vol. II, p. 274.)

EDOCLA SINDICA, *Bergr. Deutsch. ent. Zeitschr.* 1908, p. 593.

Bergroth (*suprà*) has given a somewhat lengthy description of a single ♀ brachypterous form of this species. Without a figure this description would be of little use, and I therefore merely call attention to it here, and hope to be able to figure and diagnose it fully before the completion of this Appendix. It was received from Kurrachee.

Genus **SMINTHOCORIS**. (Vol. II, p. 279.)

2967. **Sminthocoris reuteri**, *Bergr.* (Tapinus) *Ann. Soc. Ent. Belg.* liii, p. 189 (1909).

"Shining, hemelytra opaque. Coral-red, sparsely testaceously pilose, corium cinnabar-red; clavus (excepting base), an adjacent band on the corium and the membrane black, a large triangular spot occupying the basal interior angle of the membrane ochraceous yellow; antennæ, excepting the first joint and base of second, fuscous-olivaceous; apical joint of rostrum palely fuscous; tarsi rufous-testaceous. Head distinctly longer than the posterior lobe of the pronotum, the interocular space half as broad again as the longitudinal diameter of the eye; second joint of the antennæ five times longer than the first; anterior lobe of the pronotum distinctly sculptured, the tubercle at the apical angles obtuse, the posterior median impression continued as a line through the posterior lobe which is moderately transversely rugose, lateral rugose impressions much more distinct." (*Bergroth.*)

"Length, ♂, 14 millim."

Hab. Bombay.

I have not seen this species. It may have formed part of the Wroughton collection forwarded to Dr. Bergroth for identification many years ago.

Subfamily ECTRICHODIINÆ. (Vol. II, p. 304.)

Genus **ANTIOPULA**. (Vol. II, p. 305.)

2968. **Antiopula typicalis**, *Dist. A. M. N. H.* (7) xviii, p. 367 (1906).

Sanguineous; antennæ, hemelytra, a broad transverse fascia to the last two dorsal abdominal segments, a large spot on each lateral area of the same segment beneath, and a spot on apical segment, black; base of first joint of antennæ sanguineous, fifth and sixth joints pale stramineous, apex of sixth joint fuscous; basal halves of lateral margins to hemelytra sanguineous, becoming broader at area of membrane; antennæ with six joints, first nearly as long

as head, second longest, third, fourth, fifth, and sixth small, the last three subequal in length ; head convexly globose ; eyes convex, black ; pronotum centrally longitudinally sulcate, posterior lobe also longitudinally impressed near lateral angles ; anterior femora a little thickened but unarmed.

Length $7\frac{1}{2}$ millim.

Hab. Ceylon ; Peradeniya (*Green*).

Stål's type of the genus has the antennæ imperfect ; the above description therefore locates the genus *Antiopula* in the section of the subfamily Ectrichodiinæ distinguished by the possession of six joints to the antennæ.

Genus **SCADRA**. (Vol. II, p. 308.)

2969. **Scadra militaris**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 366 (1909).

Sanguineous ; first and second joints of antennæ, apex of head above, scutellum, a broad longitudinal claval streak, membrane, head beneath, rostrum, sternum, and legs black ; abdomen beneath sanguineous, with a broad sublateral fascia on each side of disk

Fig. 112.—*Scadra militaris.*

black, this fascia is narrowed posteriorly and does not reach the abdominal apex ; antennæ with the basal joint a little shorter than head and considerably shorter than second joint (remaining joints mutilated in typical specimen) ; rostrum with the basal joint about as long as or a little longer than the remaining joints together ; head transversely impressed behind eyes ; pronotum with the anterior lobe shorter than the posterior, moderately sculptured, both lobes centrally longitudinally sulcate, the sulcation not reaching base, posterior lobe also longitudinally impressed before each

lateral margin; scutellum sculptured, the apical spinous angles curved and a little directed inwardly.

Length 14 millim.

Hab. Assam: Naga Hills (*Doherty*).

To follow *S. fascicrus*, Stål (vol. ii, p. 308).

2970. **Scadra atricapilla,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 367 (1909).

Sanguineous; head from the transverse impression behind eyes to apex, collar, first and second joints of antennæ, scutellum, a broad longitudinal streak to clavus, membrane, head beneath, and sternum, black; rostrum and legs piceous brown, tibiæ annulated with pale ochraceous near base; abdomen beneath sanguineous with a broad longitudinal sublateral black fascia on each side of disk, this fascia a little narrowed posteriorly and not reaching apex; antennæ with the first joint almost as long as head or very slightly shorter, distinctly shorter than second joint, both joints pilose, remaining joints mutilated in typical specimen; rostrum with the basal joint about as long as remaining joints together; pronotum with the anterior lobe considerably shorter than posterior, roundly narrowed anteriorly, only slightly sculptured, both lobes centrally longitudinally sulcate, the sulcation not extending beyond middle of posterior lobe and with the transverse impression piceous, posterior lobe with a longitudinal impression before each lateral margin; scutellum moderately foveate at base, the apical spinous angles curved and a little directed inwardly; legs slightly, tibiæ more prominently pilose.

Length 12 millim.

Hab. Sylhet (*Vienna Mus.*).

To follow *S. scutellaris*, Dist. (vol. ii, p. 309).

Genus **QUERCETANUS**. (Vol. II, p. 310.)

QUERCETANUS RELATUS. (Vol. II, p. 311.)

Var. An elongate central black spot on anterior pronotal lobe, but not reaching its base; connexivum with black spots near the incisures.

Hab. Ceylon (*Heuser, Vienna Mus.*).

Genus **LIBAVIUS**. (Vol. II, p. 313.)

2971. **Libavius tricolor,** *Dist. A. M. N. H.* (7) xviii, p. 367 (1906).

Sanguineous; corium dull ochraceous, the veins, lateral margins and apical angles sanguineous; membrane black; antennæ longly pilose, first and second joints dull sanguineous, remaining joints fuscous; anterior lobe of pronotum centrally sulcate and with two prominent acute tubercles, posterior lobe with three deep longi-

tudinal impressions, the central one not reaching basal margin; head with two short spines at its anterior margin; connexivum moderately broadly and upwardly produced, the segmental angles slightly tuberculous; rostrum reaching the anterior coxæ.

Length 12 millim.

Hab. Ceylon; Wellawaya (*Green*).

Genus GUIONIUS.

(To follow *Labidocoris*, Vol. II, p. 313.)

Guionius, *Dist. Ann. Soc. Ent. Belg.* liii, p. 367 (1909).

Type, *G. indictus*, Dist.

Distribution. At present only recorded from Assam.

♀. Head with the anteocular and postocular areas subequal in length, depressed anteriorly with the central lobe prominent at apex, the antenniferous tubercles prominent, the postocular area globose both above and beneath; ocelli very distinct; antennæ with the first joint shorter than head, shorter than second joint, both these joints moderately curved (remaining joints mutilated in typical specimen); rostrum with the first joint much shorter than second, not reaching eyes, a distinct moderately broad collar at base of head; pronotum with the anterior lobe shorter than the posterior, convexly globose, its lateral margins convex, with a broad central foveate sulcation which does not reach anterior margin and is continued on posterior lobe for about half its length, posterior lobe with three longitudinal punctate impressions, one central and one on each lateral area; scutellum broad, transverse, not narrowed posteriorly, apical spines wide apart and slightly curved, the lateral margins ridged; abdomen moderately dilated, the connexivum broadly exposed on each side; legs robust, the anterior femora incrassate and armed beneath with a short tuberculous spine on apical area, anterior and intermediate tibiæ with a short apical spongy furrow; membrane not reaching the apical margin.

Allied to *Labidocoris* by the spinous anterior femora, but differing from that genus by the distinct structure of the head, first joint of the rostrum much shorter than the second, first joint of antennæ shorter than head, &c.

2972. **Guionius indictus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 368 (1909).

♀. Head, pronotum, and scutellum sanguineous; first joint of antennæ dull reddish, its apex and the whole of second joint black; body beneath shining black; head beneath, rostrum, prosternum, lateral margins of meso- and metasterna, legs, and lateral margins of abdomen sanguineous, disks of fourth and fifth and nearly the whole of sixth segment dull reddish; apices of tibiæ and marginal

spot to first and second segments black; connexivum (as seen above) sanguineous, with a transverse black spot at the incisures;

Fig. 113.—*Guionius indictus.*

hemelytra black, corium with the lateral margins widened at posterior angle, sanguineous; structural characters as in generic diagnosis.

Length 18 millim.

Hab. Assam (*Coll. Dist.*).

Genus **ECTRYCHOTES.** (Vol. II, p. 314.)

2973. **Ectrychotes hæmatogaster,** *Burm.* (Reduvius) *Nov. Acta Acad. Leop.* xvi, *Suppl.* i, p. 301, t. xli, f. 9 (1834); *Mayr* (Larymna), *Reis. Novara, Hem.* p. 156 (1866).

Head, pronotum, and scutellum shining dark olivaceous; hemelytra dull black; connexivum sanguineous; head beneath, rostrum, sternum, and legs shining dark olivaceous; base of intermediate femora, basal two-thirds of posterior femora, and the abdomen beneath sanguineous; anal appendage dark shining olivaceous.

This species is allied in the present Indian enumeration to *E. crudelis* (vol. ii, p. 316) and *E. abbreviatus* (vol. ii, p. 317). From both it differs by the absence of the pale base to the corium and clavus, and from the first by the different colour of the posterior femora and by the ochraceous not violaceous-black colour of the head, pronotum, &c.; the antennæ, especially the basal joint, are also much less longly pilose. From *E. abbreviatus* it is to be distinguished by the longer hemelytra, the membrane of which almost reaches the abdominal apex.

Length 12–13 millim.

Hab. Sylhet (*Vienna Mus.*); Philippine Islands.

Genus **PHYSORHYNCHUS.** (Vol. II, p. 318.)

PHYSORHYNCHUS LINNÆI. (Vol. II, p. 319.)

Mr. E. E. Green records ('Spolia Zeylanica') that he saw an immature specimen of this species attack and eventually kill a large millipede measuring $5\frac{3}{4}$ inches in length.

Genus **SCHOTTUS.**

(After *Vilius*, Vol. II, p. 324.)

Schottus, *Dist. A. M. N. H.* (7) x, p. 293 (1902).

Type, *S. sulicus*, Walk., from the Malayan Archipelago.

Distribution. Ceylon; Malay Peninsula, Malayan Archipelago.

Head moderately short, broad, gibbous behind the eyes, constricted at base, anteriorly centrally produced; antennæ four-jointed, moderately pilose, somewhat robust, first and second joints stoutest, first about as long or almost as long as head, second distinctly longer than first, third and fourth more slender and subequal; rostrum with the first joint longer than the second, very little shorter in length than second and third together; pronotum centrally foveately sulcate from base of anterior to near base of posterior lobe, longitudinally sulcate near posterior angles, transverse constriction interrupted at central sulcation; scutellum biangulate posteriorly, the mucronate angles somewhat widely separated; connexivum exposed and upwardly directed; hemelytra almost reaching apex of abdomen; anterior femora not prominently incrassated, with a distinct tuberculous spine beneath; sternum more or less channelled between the intermediate coxæ.

Allied to *Vilius* (vol. ii, p. 324) but at once separated by the structure of the rostrum.

2974. **Schottus kandyensis,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 368 (1909).

Sanguineous; membrane black; corium (excluding extreme costal margin and apical angle) and base of membrane reddish-ochraceous; antennæ black, first joint sanguineous, basal joint about as long as head, second about one-fourth longer than first, third and fourth subequal in length, first and second stoutest, third and fourth slender and pilose; head transversely impressed behind eyes and just before ocelli; rostrum with the first joint longer than second, very little shorter than second and third together; pronotum with the anterior lobe moderately sculptured, centrally longitudinally impressed, posterior lobe centrally and sublaterally longitudinally sulcate, the central sulcation not reaching base; scutellum triangulate posteriorly, the mucronate angles widely separated; membrane not quite reaching abdominal apex; anterior

femora moderately thickened, with a distinct tuberculous spine a little beyond middle of under surface.

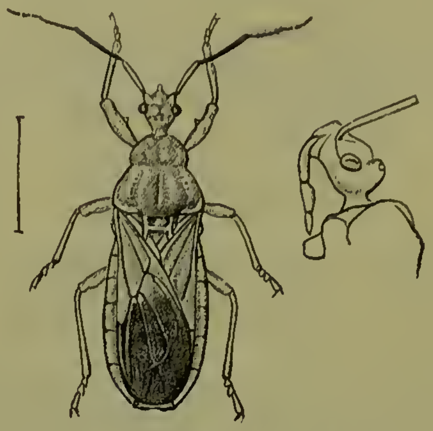

Fig. 114.—*Schottus kandyensis.*

Length 11 millim.
Hab. Ceylon; Kandy (*Green*).

Subfamily HARPACTORINÆ. (Vol. II, p. 329.)

Genus **RHAPHIDOSOMA**. (Vol. II, p. 330.)

2975. **Rhaphidosoma greeni,** *Dist. A. M. N. H.* (7) xviii, p. 367 (1906).

Piceous black; rostrum and legs castaneous, intermediate and posterior tibiæ dull ochraceous, tarsal claws piceous; head elongate, ante- and postocular portions almost subequal in length, the post-ocular portion finely granulate and somewhat castaneous; antennæ pale castaneous brown, first joint as long as intermediate femora, second and third joints subequal in length and each considerably shorter than first; anterior and intermediate femora subequal in length, posterior femora a little shorter and posterior tibiæ a little longer than abdomen; abdomen above pale piceous brown, a central longitudinal fascia and the lateral margins black; rostrum reaching the anterior coxæ.

Length 25 millim.
Hab. Ceylon; Wellawaya (*Green*).

Genus **LOPHOCEPHALA**. (Vol. II, p. 331.)

LOPHOCEPHALA GUERINI. (Vol. II, p. 331.)

Lophocephala incerta, *Amy. & Serv. Hém.* p. 386 (1843).

This is a variable species. In some specimens the first joint of

the antennæ is black with its base red, in others it is entirely red; the legs vary in a similar manner, being sometimes entirely red; the anal plate is also either black or red.

Add: *Hab.* Chatrapur (*Ind. Mus.*); Kashmir (*Hügel, Vienna Mus.*).

Genus **HARPACTOR.** (Vol. II, p. 332.)

2976. **Harpactor erythropus,** *Linn.* (Cimex) *Syst. Nat.* i, p. 725. 69 (1767); *Stål* (Reduvius (Rhinocoris)), *En. Hem.* iv, p. 40 (1874); *Oshan.* (Harpactor) *Verz. Pal. Hem. Het.* ii, p. 550 (1908).
Reduvius hæmorrhoidalis, *Fabr. Mant. Ins.* ii, p. 311. 23 (1787): *Fieb.* (Harpactor) *Eur. Hem.* p. 154 (1861).
Reduvius tessellatus, *Fabr. Mant. Ins.* ii, p. 313. 38 (1787).

Dull reddish ochraceous; head (excluding under surface), scutellum, spots to connexivum, body beneath, and rostrum black; posterior lateral margins of pronotum and a central longitudinal fascia to scutellum (not reaching base) dull ochraceous; membrane pale bronzy-brown; upper surface of legs more or less black; head about as long as pronotum, with the anteocular a little longer than the postocular area, transversely incised behind eyes; antennæ with the first joint scarcely longer than head, longer than second, third and fourth joints almost subequal in length; pronotum with the anterior lobe more or less suffused with black, somewhat longly pilose, with the head more longly pilose on lateral margins, posterior lobe with the lateral angles subprominent, the posterior lateral angles laminate and obliquely suberect; membrane not passing the abdominal apex; legs above streaked with black, the posterior tibiæ dull reddish ochraceous with the base black; tarsi black; first joint of rostrum not extending beyond the eyes.

Length 14 millim.

Hab. "India" (*Signoret Coll. in Vienna Mus.*).—Widely distributed over the Palæarctic Region.

This well known Palæarctic species is included in the fauna on the evidence of an Indian specimen belonging to the collection of the late Dr. Signoret. It was probably acquired from the extreme western area of British India.

In this enumeration it may be placed before *H. fuscipes*, Fabr. (vol. ii, p. 333).

Harpactor costalis. (Vol. II, p. 334.)

Var. Corium almost entirely black, only costal margin of corium coral-red; in this variety the head is also entirely black, the pale fasciate spot between the eyes being absent.

Hab. Calcutta.

The typical form of the species has also been taken by Mr. Bainbrigge Fletcher at Hambantota in Ceylon.

2977. **Harpactor mœandrus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 369 (1909).

Coral-red; antennæ, eyes, a central triangular spot behind ocelli, a large anterior transverse spot to posterior lobe of pronotum, hemelytra, apices of anterior and intermediate femora, the whole of the posterior femora, tibiæ, tarsi (excluding base), apical half of rostrum, lateral sternal spots, stigmatal spots and apical third to abdomen beneath, black; head about as long as pronotum, anteocular and postocular areas subequal in length; first joint of antennæ about as long as anterior femora; first joint of rostrum shorter than second and reaching middle of eyes; anterior lobe of pronotum with two small but distinct tubercles on disk a little behind middle, between them a foveate impression, posterior lobe considerably longer than the anterior with the lateral angles broadly subprominent; membrane reaching or very slightly passing the abdominal apex; legs somewhat longly pilose; the coral-red connexivum prominent and recurved on each side of the black hemelytra.

Length 13 millim.

Hab. Tenasserim (*Coll. Dist.*).

To follow *H. costalis* (vol. ii, p. 334).

Genus SPHEDANOLESTES. (Vol. II, p. 339.)

2978. **Sphedanolestes fraterculus**, *Bergr. Deutsch. ent. Zeitschr.* 1908, p. 591.

Head, antennæ, pronotum, scutellum, sternum, and legs black; lateral and posterior margins of the hind lobe of pronotum, posterior margin of the prosternum, central disk of mesosternum, and abdomen beneath, reddish ochraceous or stramineous; abdomen above, spots to connexivum, a broad sublateral fascia—angulate interiorly—apical area, and posterior marginal spots to abdomen beneath, black; corium obscure fuscous-testaceous, membrane infuscate; head distinctly a little shorter than pronotum, postocular area considerably longer than anteocular area; first joint of antennæ as long as head, second joint less than half as long as first; rostrum with the first joint passing the anterior margin of eyes and much shorter than second joint; pronotum with the anterior lobe profoundly centrally impressed, posterior lobe centrally, longitudinally but more narrowly impressed, the anterior angles distinctly shortly obliquely tuberculate, posterior angles roundly truncate, not prominent, basal margin straight; membrane passing the abdominal apex, discoidal cell much broader than long.

Length $8\frac{1}{2}$–$9\frac{1}{2}$ millim.

Hab. Kumaon; Bhim Tal, 4500 ft. (*Annandale*). Trichinopoly (*fide Bergroth*), Palni Hills, Kodaikanal.

A varietal specimen from the Palni Hills, kindly sent to me by Dr. Montandon, has the black sublateral fascia to the abdomen beneath replaced by a series of spots.

2979. **Sphedanolestes minusculus**, *Bergr. Deutsch. ent. Zeitschr.* 1908, p. 592.

Black; sternum much varied with greyish testaceous; membrane shining fuscous; abdomen beneath luteous, marginal spots, a sublateral fascia and apex black; head as long as pronotum, postocular distinctly longer than anteocular area; first joint of antennæ about as long as head; first joint of rostrum reaching middle of eyes, considerably shorter than second joint; pronotum with the anterior lobe profoundly, the posterior lobe less profoundly, longitudinally impressed or sulcate, on each side of the impression to anterior lobe distinctly tuberculous, the anterior angles shortly tuberculous, subacute, basal margin nearly straight, posterior angles truncately rounded, subprominent; scutellum with the apex stramineous (not mentioned by Bergroth); membrane passing the abdominal apex, discoidal cell almost as long as broad, corium subrugulose; legs black, femora finely nodulose.

Length 7 millim.

Hab. Bengal; Pusa (*Lefroy*). Trichinopoly (*fide Bergroth*).

Found on grass at Pusa.

2980. **Sphedanolestes badgleyi**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 369 (1909).

Head, antennæ, rostrum, pronotum, scutellum, sternum, and legs black or piceous; a longitudinal fascia to head beneath and the abdomen beneath, ochraceous, the latter with a sublateral series of irregularly placed black spots; hemelytra pale bronzy-brown; head about as long as pronotum, anteocular portion shorter and narrower than the postocular; antennæ with the first joint as long as the anterior femora, almost equal in length to the second joint; rostrum reaching the anterior coxæ, first joint reaching eyes, shorter than second joint; pronotum with both lobes broadly longitudinally sulcately impressed, posterior angles slightly nodulose, posterior margin straight; femora nodulose; membrane passing the abdominal apex.

Length 11 millim.

Hab. Assam (*Badgley*, *Brit. Mus.*).

To follow *S. indicus* (vol. ii, p. 340).

2981. **Sphedanolestes bowringi**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 369 (1909).

Black; pronotum, scutellum, and sternum coral-red; first joint of rostrum (excluding base and apex), a large spot on each side of head in front of eyes and beneath base of antennæ, a small spot on each side of head behind eyes and in front of ocelli, connexivum, abdomen beneath and bases of femora, pale luteous; two spots on posterior area of connexivum, tessellate markings on each lateral area of abdomen beneath, and abdominal apex, black; first joint of

antennæ about as long as anterior femora, black (remaining joints mutilated in typical specimen); anterior lobe of pronotum centrally longitudinally sulcate, posterior lobe centrally broadly impressed; pronotum about as long as head, basal margin straight, posterior angle a little broadly, roundly prominent; membrane with the apical area brownish ochraceous and considerably passing the abdominal apex; femora nodulose.

Length 9 millim.

Hab. "India" (*Bowring, Brit. Mus.*).

Allied to *S. trichrous*, Stål, a species I have not seen, but from the description of which *S. bowringi* differs in the colour of the rostrum, spots to head, and the colour and markings of the abdomen beneath.

To follow *S. trichrous* (vol. ii, p. 343).

2982. **Sphedanolestes himalayensis**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 370 (1909).

Head above, antennæ and legs black; anteocular area of head (excluding apical spot), a spot between eyes, and a longitudinal spot behind the transverse impression, extreme base of head, pronotum, scutellum, abdomen above and beneath, sternum and bases of femora, sanguineous; head beneath, rostrum, coxæ, and trochanters ochraceous; abdomen above apically and sublaterally black; corium pale brownish ochraceous with the veins darker, membrane pale flavous hyaline; head about as long as pronotum, anteocular a little shorter and narrower than postocular area; antennæ with the first joint as long as the anterior femora; pronotum with the anterior lobe convex, centrally longitudinally sulcate, the posterior lobe centrally broadly impressed, the posterior angles broadly rounded, slightly prominent; rostrum reaching the anterior coxæ, its apex piceous, first joint reaching eyes, shorter than second joint; membrane considerably passing the abdominal apex; body and legs pilose, the legs and margins of connexivum longly pilose.

Length 11 millim.

Hab. East Himalayas.

By the sanguineous pronotum allied to the preceding species, *S. bowringi*.

2983. **Sphedanolestes rubecula**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 370 (1909).

Head and scutellum black; pronotum and sternum sanguineous; abdomen beneath sordidly piceous shaded with black and with a large pale basal spot; legs black, coxæ and extreme bases of anterior femora sanguineous; hemelytra pale bronzy-brown, corium distinctly longitudinally grooved, membrane finely wrinkled; head about as long as pronotum, postocular area a little longer and broader than anteocular area, with two prominent tubercles just

behind the transverse impression between the eyes; antennæ with the first joint black, about as long as the anterior femora (remaining joints mutilated in typical specimen); pronotum centrally longitudinally impressed on anterior lobe, centrally and broadly impressed on posterior lobe, the posterior angles a little prominent and nodulose, the posterior margin not quite straight, a little concave; rostrum with the first joint reaching eyes, shorter than second joint; membrane considerably passing abdominal apex; femora regularly nodulose; legs somewhat longly pilose.

Length 8 millim.

Hab. Mergui (*Coll. Dist.*).

Genus **SYCANUS**. (Vol. II, p. 351.)

2984. **Sycanus galbanus**, *Dist. A. M. N. H.* (7) xviii, p. 368 (1906).

Black; corium stramineous, the clavus black; head and rostrum smooth, shining black, second and third joints of the latter piceous-brown; antennæ with the first and second joints black, remainder greyish-brown, first joint a little longer than head; pronotum with the anterior lobe shining black but greyishly pilose, posterior lobe granulose; scutellum with a moderately long erect spine, its apex subacute, not bifid; corium finely rugosely punctate between the veins, which are strongly prominent; membrane shining, slightly bronzy black, extreme basal margin stramineous; abdomen beneath shining black, with a longitudinal series of white segmental spots near each lateral margin; sternum with some obscure testaceous-brown spots; femora longly pilose, slightly nodulose near apex; abdomen moderately ampliated and raised on each side, its margins obtusely angularly sinuate.

Length 20 millim.

Hab. Ceylon; Ritnagalla (*Green*).

In colour *S. galbanus* is allied to that section of the genus represented by *S. collaris*, Fabr., but in structure is widely divergent, and belongs to the specific section characterized by the subacute and not bifid scutellar spine.

Sycanus leucomesus, *Walk. Cat. Het.* viii, p. 84 (1873).

Sycanus collaris (part.), vol. ii, p. 351, fig. 225 (*S. collaris*).

From specimens labelled *S. collaris*, Fabr., in the British Museum, which also contains the type of Fabricius, I concluded the identification was correct and that comparison had been made. Moreover, though Stål (En. Hem. iv, p. 28) writes correctly of the species "Spina scutelli brevi, cylindrica, integra, obtusa," he had not previously described or referred to it in his 'Hemiptera Fabriciana,' and it therefore seemed probable that he had not examined the species when in London. I have, however, now examined the unique type in the Banksian collection, and find the

scutellum is as Stål described it. My description and figure of *S. collaris* (*suprà*) must perforce, as suggested by Bergroth, be taken to represent *S. leucomesus*, Walk.

On the Dinding Islands Mr. H. N. Ridley reports this species as "doing good work in killing the Sphingid Moth, *Cephoriodes hylas*."

2985. **Sycanus collaris**, *Fabr.* (Reduvius) *Spec. Ins.* ii, p. 380 (1781); *Stål, En. Hem.* iv, p. 28 (1874); *Dist.* (part.) vol. ii, p. 351.

In markings and coloration almost exactly resembling *S. leucomesus*, Walk., but differing by the short, cylindrical obtuse spine, the apex of which is entire and not bifid.

Length ♂ 22–23 millim.

Hab. Bengal; Ceylon (*Green*).—Malacca.

2986. **Sycanus albofasciatus**, *Bergr. Deutsche ent. Zeitschr.* 1908, p. 590.

Black; a transverse fascia behind middle of corium, and connexivum above and beneath, very pale stramineous or reddish ochraceous (in the ♂ and ♀ specimens now before me the markings in the ♀ are stramineous and in the ♂ reddish ochraceous); elongate; palely pilose; antennæ with the basal joint as long as head, second about half the length of first; pronotum with the anterior lobe with two oblique bands on each side which are densely pilose, a short obtuse tubercle at each anterior angle, the posterior lobe strongly rugulose; scutellum armed with an erect conical tubercle; hemelytra passing the abdominal apex; corium transversely rugulose; abdomen laterally moderately dilated and sinuate, with the apices of the segments a little prominent.

Length, ♂ 18, ♀ 24 millim.

Hab. Madras Province; Palni Hills, Kodaikanal (*coll. Dist.*); Trichinopoly (*fide Bergroth*).

Allied to *S. indagator*, Stål (vol. ii, p. 355). I have to thank Dr. Montandon for giving me co-types, ♂ and ♀, of this species.

Genus **MACRACANTHOPSIS**. (Vol. II, p. 362.)

2987. **Macracanthopsis nigripes**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 371 (1909).

Head, pronotum, scutellum, and body beneath luteous; antennæ and spines behind their base, eyes, hemelytra, legs, and lateral margins of abdomen beneath, black; abdomen beneath more stramineous than luteous; antennæ with the first joint as long as the head, pronotum, and scutellum together; head about as long as pronotum, transversely impressed between the eyes; spines

behind base of antennæ long, directed obliquely upward; first joint of rostrum much shorter than second, second about as long as first and third together; pronotum with the anterior lobe tumid and centrally impressed, posterior lobe centrally foveately impressed, the impression not reaching the posterior margin; anterior femora moderately incrassated and nodulose, apices of intermediate and posterior femora nodulose.

Length $8\frac{1}{2}$ millim.

Hab. Travancore; Pallode, near Trivandrum and Maddathoray, W. Ghats (*Annandale*).

Allied to *M. nodipes*, Reut., but smaller; first joint of antennæ longer, spines behind antennal bases also a little longer and more slender, legs black, &c.

2988. **Macracanthopsis hampsoni**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 371 (1909).

Head, pronotum, and scutellum pale ochraceous; two central longitudinal lines to head from ocelli to base, and a broad sublateral fascia on each side of pronotum black; body beneath and legs stramineous, abdomen beneath with a longitudinal sublateral black fascia, the legs obscurely annulated with black; hemelytra black, about apical half of membrane pale hyaline; head about as long as pronotum, anteocular distinctly shorter than postocular area, a long obliquely erect black spine behind the base of each antenna, which is black, and the first antennal joint is slightly longer than head and pronotum together; first joint of rostrum not reaching eyes, much shorter than second joint; pronotum with the anterior lobe tumid and centrally impressed, the anterior angles short but distinct, posterior lobe centrally foveately impressed, the posterior angles moderately but distinctly subangularly prominent; scutellum with the margins and apex carinately elevate; membrane longly passing the abdominal apex; legs slender, anterior femora moderately incrassated and nodulose, apices of intermediate and posterior femora nodulose.

Length 12 millim.

Hab. Nilgiri Hills (*Hampson*).

CYDNOCORIS CROCATUS. (Vol. II, p. 361.)

Add: *Hab.* Ceylon; Haragama (*Green*); Diyatalawa, 4000 ft. (*Bainbrigge-Fletcher*).

"Resembles a common Braconid wasp" (*E. E. Green in litt.*).

Genus **EUAGORAS**. (Vol. II, p. 363.)

EUAGORAS PLAGIATUS. (Vol. II, p. 363.)

Var. Resembling the typical form of the species, but the reddish ochraceous coloration replaced by luteous; femora

unicolorous, not streaked with black; structural characters as in typical form of the species.

Add: *Hab.* Ceylon; Hambantota (*Bainbrigge-Fletcher*).

A single specimen taken by Mr. Fletcher, and the only example from Ceylon which I have seen.

Genus SERENDIBA.

Serendiba, *Dist. A. M. N. H.* (7) xviii, p. 368 (1906).

Type, *S. pundaluoyæ*, Dist.

Distribution. Ceylon.

Body elongate; head shorter than pronotum, and with a short tuberculous spine behind the base of each antenna, postocular area about half as long again as anteocular area, transversely impressed between eyes and attenuated to base; ocelli situate just behind eyes; rostrum with the first joint a little longer than second and subequal to the remaining two joints together; antennæ

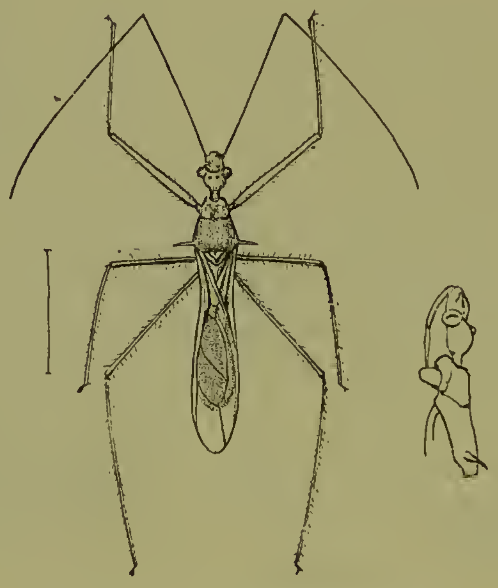

Fig. 115.—*Serendiba pundaluoyæ.*

slender, the first joint about as long as the posterior femora; pronotum with the posterior lobe about half as long again as the anterior lobe, which is sculptured and broadly, medially, posteriorly impressed, the posterior angles longly porrectly spinous; scutellum short, robust, medially impressed at base, its apex not acuminate; anterior tibiæ straight, as long as anterior femora, shorter than posterior femora; posterior tibiæ longer than the femora.

Allied to *Villanovanus*, Dist. (vol. ii, p. 364).

2989. **Serendiba pundaluoyæ**, *Dist. A. M. N. H.* (7) xviii, p. 369 (1906).

Head ochraceous or brownish ochraceous; antennæ reddish ochraceous; pronotum with the anterior lobe dull opaque greyish, the posterior lobe and hemelytra more brilliantly greyish; pronotal lateral spines with their basal area pale testaceous; membrane with more than basal half iridescent; legs ochraceous, somewhat stramineous near base; abdomen beneath with piceous suffusions; pronotum with the anterior lobe sculptured, levigate, the posterior lobe finely granulose, the posterior lateral spines slightly directed backward; legs finely pilose; antennæ with the first joint as long as posterior femora and more than three times longer than second joint.

Length 12 millim.

Hab. Ceylon; Pundaluoya (*Green*).

Genus OCCAMUS.

Occamus, *Dist. Ann. Soc. Ent. Belg.* liii, p. 372 (1909).

Type, *O. typicus*, Dist.

Distribution. Ceylon.

Head about as long as pronotum, transversely impressed between eyes, anteocular much shorter than postocular area, a short tuberculous spine above bases of antennæ, postocular area attenuated

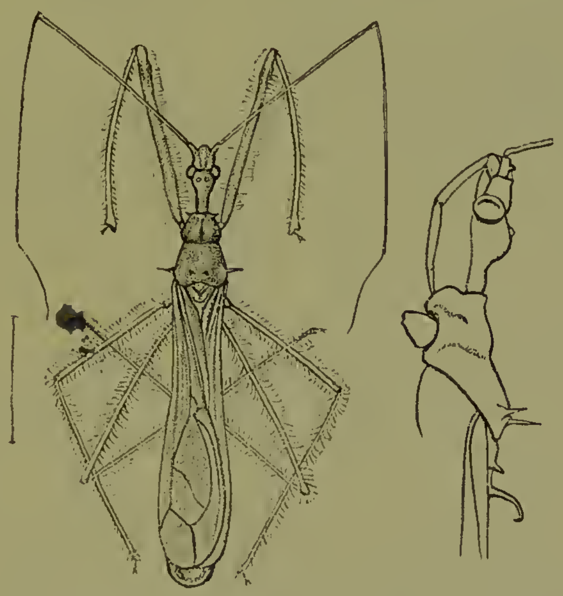

Fig. 116.—*Occamus typicus.*

towards base; antennæ slender, first joint about as long as anterior femora, slightly shorter than second; rostrum with the first joint passing eyes, first and second joints subequal in length; pronotum with the anterior lobe shorter than the posterior, mode-

rately globose and sculptured, with a distinct short suberect spine at each anterior angle, posterior lobe with a much longer almost straight slender spine at each lateral angle, and two shorter erect spines on disk a little before base, posterior margin sinuate; scutellum with two spines, one near base almost straight, the other at apex long and strongly recurved; anterior femora moderately regularly thickened, straight, the anterior tibiæ only very slightly shorter than the femora, curved, their apices slightly dilated and truncate; intermediate and posterior legs slender; membrane not reaching the abdominal apex.

Allied to *Alcmena*, Stål (vol. ii, p. 369).

2990. **Occamus typicus**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 372 (1909).

Head, antennæ, and pronotum brownish ochraceous; body beneath, rostrum, and legs ochraceous; apical area of abdomen above and beneath piceous or black, but even there the connexivum is ochraceous; corium ochraceous; membrane dull greyish; body finely pilose, legs much more longly pilose; femora obscurely fuscously annulate near apices; apex of first joint of antennæ fuscous; structural characters as in generic diagnosis.

Length 12 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus **LANCA**.

Lanca, *Dist. A. M. N. H.* (7) xviii, p. 369 (1906).

Type, *L. kandyensis*, Dist.

Distribution. Ceylon.

Body narrow, elongate; head about as long as pronotum, postocular portion much longer than anteocular, profoundly transversely incised between eyes, attenuated towards base, a short tubercle or spine behind the antenniferous tubercles; ocelli placed just behind eyes; rostrum with the first joint slightly longer than second; antennæ slender, first joint about as long as posterior femora, second joint about one-third the length of first; pronotum with the anterior lobe much shorter than the posterior lobe, the latter with two moderately long, erect, discal spines, and with a long, slender, porrect spine at each lateral angle, its basal margin strongly emarginate, the anterior lobe convex, faintly medially incised, and with its anterior angles tuberculously subprominent; scutellum apically somewhat tuberculous, not spined; hemelytra not quite reaching the apex of abdomen, membrane longer than corium; abdomen not projecting beyond the lateral margins of the hemelytra, the sixth abdominal segment with the connexivum subangularly dilated on each side; anterior femora slightly thickened and a little longer than the tibiæ, posterior femora and tibiæ longest and subequal in length.

To be placed near *Platerus*, Dist. (vol. ii, p. 375).

2991. **Lanca kandyensis**, *Dist. A. M. N. H.* (7) xviii, p. 370 (1906).

Pale fuscous brown; pronotum much mottled with ochraceous pile, more thickly so on posterior lobe; antennæ pale fuscous-brown, first joint ochraceous with its apex infuscate; antenniferous tubercles castaneous; eyes black; rostrum ochraceous; anterior

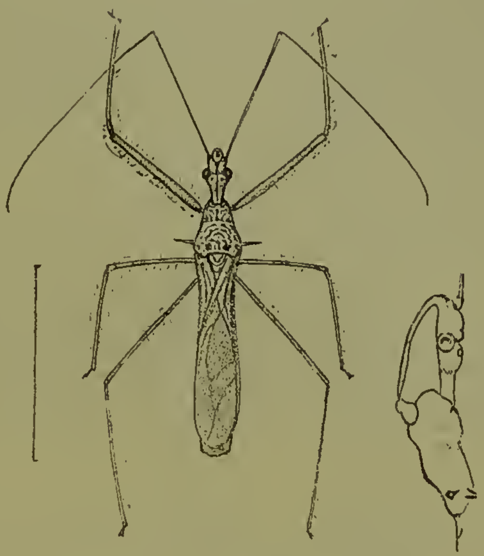

Fig. 117.—*Lanca kandyensis.*

femora with an obscure, subapical, greyish annulation, and anterior tibiæ with a similar subbasal annulation; intermediate and posterior femora annulated and basally suffused with ochraceous, the tibiæ with a similarly coloured subbasal annulation; body and legs shortly pilose; the abdomen beneath piceous and ochraceously pilose.

Length 18 millim.

Hab. Ceylon (*Lewis*); Kandy (*Green*).

Genus NAGUSTA.

Nagusta, *Stål, Öfv. Vet.-Ak. Förh.* 1859, p. 374; *id. Hem. Afr.* iii, p. 59 (1865); *id. En. Hem.* iv, p. 7 (1874).
Zelus, *Kolenati, Melet.* vi, p. 41 (1857).
Phanerocoris, *Jakowl. Bull. Soc. Nat. Mosc.* xlix (2) p. 267 (1875).

Type, *N. goedeli*, Kolenati, a Palæarctic species.

Distribution. Palæarctic, Ethiopian, and Oriental Regions.

"Body elongate; head elongate, anteriorly bispinous; eyes situate before the middle of head; rostrum with the first joint subequal in length to the two apical joints; antennæ with the first joint slightly shorter than the head and pronotum together; pronotum before the middle constricted, the anterior lobe destitute of spines or tubercles, posterior lobe more or less distinctly discally bituberculate, posterior angles not produced; scutellum a little

longer than broad, destitute of a discoidal tubercle; hemelytra not quite reaching the abdominal apex; legs of moderate size, anterior femora not incrassated." (*Stål.*)

This genus, by the head being spined behind the base of each antenna, should fall into my division *Euagorasaria* (vol. ii, p. 359). The length of the head and the proportions of the anteocular and postocular portions differentiate it, and I place it after that division, where it should perhaps constitute a new one, and before the *Polididusaria* (vol. ii, p. 384) as defined in this publication, which is intended as an aid to identification rather than as a taxonomic treatise.

2992. **Nagusta macroloba**, *Bergr. Deutsche ent. Zeitschr.* 1907, p. 579.

"Head black, sparsely cinereo-sericeous, a fascia before the interocular impression which includes a spot on each side of eyes, a medial longitudinal line posteriorly abbreviated, rostrum, two annulations and apex on first joint of antennæ, also a broad anteapical

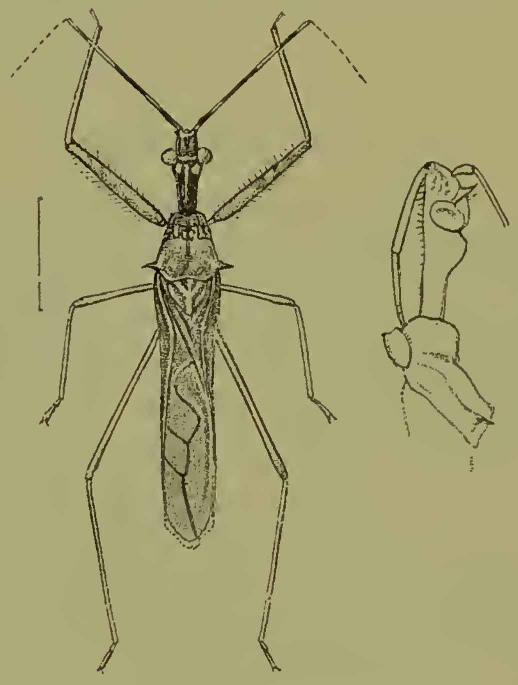

Fig. 118.—*Nagusta macroloba.*

annulation to the second joint, flavo-testaceous; the postocular portion more than twice as long as the anteocular; antennæ sparsely and very shortly pilose, first joint reaching the tubercles of the posterior lobe of the pronotum, second more than half as long as first; rostrum with the first joint longer than the two other joints united, and distinctly passing the eyes; pronotum shorter than the head, ochraceo-testaceous, anterior lobe laterally black, posterior lobe with two obtuse tubercles, lateral angles produced

"into a black spine; scutellum testaceous, the apex a little produced and with a white callus; sternum livid testaceous, pleura black, minutely reticulated with a short pale silky pubescence; hemelytra nearly reaching the abdominal apex; corium including clavus dark grey, veins (the somewhat black subcostal excepted) strongly elevated and whitish, discoidal cell small, about as long as broad, the connecting vein * twice as long as the discoidal cell; membrane cinereous, the veins piceous, apical vein bordered with piceous; abdomen livid testaceous, with short silky pubescence, laterally fuscously black, an apical fascia on each segment of the connexivum (fourth excepted) above and beneath, and the spiracles, whitish; genital segment of the female spotted with fuscous-black; legs pilose, testaceous, anterior femora with three obscure annulations on anterior half, a subapical annulation to posterior femora and apex of tibiæ, fuscous.

"Length ♀ 11·5 millim."

Hab. Bombay.

Dr. Bergroth kindly forwarded his type to enable the above figure to be made, and I regret to state that it was badly damaged in transit.

2993. **Nagusta singalensis,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 373 (1909).

Head uniformly black or fuscous; antennæ uniformly brownish ochraceous; pronotum, scutellum, and hemelytra more or less testaceous brown sprinkled with cinereous; rostrum and legs brownish ochraceous; body beneath cinereous speckled with brownish; abdomen beneath with a central longitudinal brown line; first joint of antennæ almost as long as head and pronotum together, second joint a little shorter than first; rostrum with the first joint a little longer than the remaining joints together; head with an oblique spine behind the base of each antenna, the postocular portion a little more than twice as long as the anteocular portion; pronotum a little shorter than the head, the posterior lobe very obtusely bituberculate near base, the lateral angles produced in slender brown spines which are a little recurved; hemelytra nearly reaching the abdominal apex, the discoidal cell a little longer than broad; membrane glossy cinereous brown, the veins prominent and piceous.

Length ♂ 13 millim.

Hab. Ceylon; Peradeniya (*Green*).

Allied to *N. macroloba*, Bergr., but with the discoidal cell of the corium distinctly longer than broad and with the antennæ and legs concolorous, not palely annulated; head uniformly black, &c.

* Bergroth explains that he applies the term "connecting vein" to that section of the apical margin of the corium which connects the discoidal cell with the inner apical angle.—Ed.

Genus GALLOBELGICUS.

Gallobelgicus, *Dist. A. M. N. H.* (7) xviii, p. 370 (1906).

Type, *G. typicus*, Dist.
Distribution. Ceylon.

Head moderately long, anteriorly spinously produced between the antenniferous tubercles, deeply transversely incised behind eyes, postocular portion moderately globose and with two fine moderately long spinules on each lateral margin behind eyes; rostrum with the first joint robust and passing eyes, second joint slightly shorter and dilated at base; antennæ slender, first joint about as long as head, thorax, and scutellum together, second joint short, shorter than third; pronotum with the anterior lobe longer than the posterior, the first with two tubercles on each lateral margin, posterior lobe with a long slender, slightly curved spine at each lateral angle; scutellum with two long spines, one erect near base, the other longest and obliquely ascendant at apex; hemelytra reaching apex of abdomen; anterior coxæ about one-third the length of anterior femora; legs slender, anterior femora and tibiæ longly acutely spinous, the first slightly thickened; intermediate and posterior legs unarmed, posterior femora as long as hemelytra and a little shorter than posterior tibiæ.

2994. **Gallobelgicus typicus**, *Dist. A. M. N. H.* (7) xviii, p. 371 (1906).

Ochraceous; hemelytra pale fuscous brown, with the veins ochraceous; second joint of antennæ narrowly creamy white at

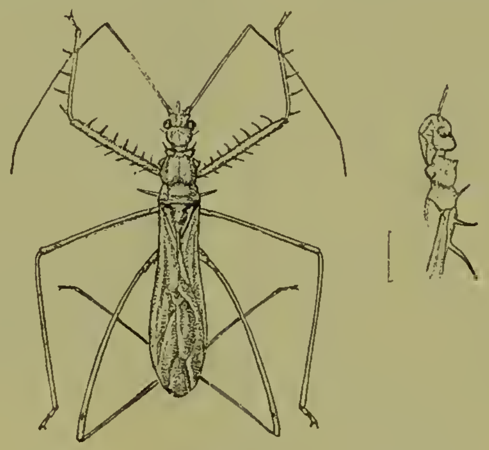

Fig. 119.—*Gallobelgicus typicus*, ♂.

base and apex; eyes black; femora obscurely fuscously annulate near apices; structural characters as in generic diagnosis.

♀. Abdomen a little convexly dilated at the lateral margins; connexivum spotted with black.

Length, ♂ 5, ♀ 6 millim.

Hab. East Himalayas; Kurseong. Ceylon; Peradeniya (*Green*).

Genus **SCIPINIA**. (Vol. II, p. 384.)

SCIPINIA HORRIDA. (Vol. II, p. 384.)

Irantha javanica, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 306.

Add: *Hab.* Bengal; Calcutta. Chupra.

Genus **IRANTHA**. (Vol. II, p. 385.)

IRANTHA ARMIPES. (Vol. II, p. 385.)

Irantha germana, *Bredd. Ann. Soc. Ent. Belg.* 1909, p. 305.

Add: *Hab.* Sikhim.

Genus **HENRICHOHAHNIA**. (Vol. II, p. 387.)

2995. **Henrichohahnia badgleyi,** *Dist. Ann. Soc. Ent. Belg.* liii, p. 373 (1909).

Head, pronotum, and sternum dull black; rostrum, legs, abdomen beneath, and hemelytra castaneous brown; antennæ with the first joint black, moderately thickened, about as long as the postocular portion of the head, second joint ochraceous, about twice as long as first (remaining joints mutilated in typical specimen); head coarsely punctate, shortly spinous on lateral margins, postocular portion a little longer than anteocular portion, the central lobe prominent and spinously anteriorly produced; rostrum with the first joint short, about reaching eyes, second joint twice as long as first; pronotum with the posterior lateral angles subprominent, not spinous, the lateral margins sinuate and narrowing anteriorly, the anterior half with longitudinal series of punctures and with a faint central longitudinal impression, the posterior area thickly punctate and finely rugulose; clavus more or less ochraceous, the apex black; connexivum in ♂ exposed beyond the middle of the hemelytra and there exhibiting two ochraceous spots; abdomen beneath longitudinally paler on disk; femora more or less granulose, the anterior femora distinctly thickened and laterally spined along inner margin.

Length ♂ 12 millim.; breadth between pronot. angles 3 millim.
Hab. Assam (*Badgley, Brit. Mus.*).
To follow *H. gallus* (vol. ii, p. 389).

Subfamily NABIDINÆ. (Vol. II, p. 389.)

Genus **ALLŒORHYNCHUS**. (Vol. II, p. 393.)

2996. **Allœorhynchus collaris**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 374 (1909).

Head and pronotum glossy black; anterior margin of pronotum somewhat broadly ochraceous; scutellum black; corium ochraceous with about apical half and clavus black; membrane pale fuscous; connexivum ochraceous spotted with black; body beneath black; rostrum, legs, and anterior margin of prosternum ochraceous; antennæ with the first and second joints ochraceous, the second a little darker and more than half as long again as first; pronotum with the anterior lobe longer than the posterior, its disk convex, its lateral margins rounded, posterior lobe broader than anterior, its lateral margins obliquely rounded, lateral margins of both lobes longly palely pilose; membrane not reaching the abdominal apex; rostrum with the second joint longer than third; anterior and intermediate femora moderately incrassated and medially obtusely, somewhat dentately ampliated.

Length ♀ 6 millim.

Hab. N.W. India; Kumaon.

In colour-markings most closely allied to the Ceylonese species *A. nietneri*, Stein, which I have not seen.

Genus **NABIS**. (Vol. II, p. 399.)

2997. **Nabis mussooriensis**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 374 (1909).

Head black, with a short oblique ochraceous line proceeding from inner margin of each eye towards base; pronotum brownish ochraceous, anterior lobe with the anterior and lateral margins and a central spot before the transverse impression piceous or black, posterior lobe much suffused with piceous and with an anterior central quadrate piceous spot; scutellum black; hemelytra pitchy black, apex of clavus ochraceous, apical margin of membrane with small scattered ochraceous spots; connexivum black with small transverse ochraceous spots; body beneath piceous or black; legs brownish ochraceous, more or less annulated with piceous, femora with a broad subapical annulation, tibiæ more regularly and narrowly annulated; antennæ brownish ochraceous, first and second joints annulated with piceous, first joint about as long as head, second and third about equally long and each considerably longer than first; rostrum about reaching the intermediate coxæ, first joint black, remainder brownish ochraceous, annulated with piceous; pronotum elongate, anterior lobe longer than the posterior and with a distinct anterior collar, its disk moderately convex and

its lateral margins roundly sinuate, posterior lobe broadly ridged at base; scutellum foveately impressed on disk; corium moderately ampliately rounded near middle; membrane slightly passing

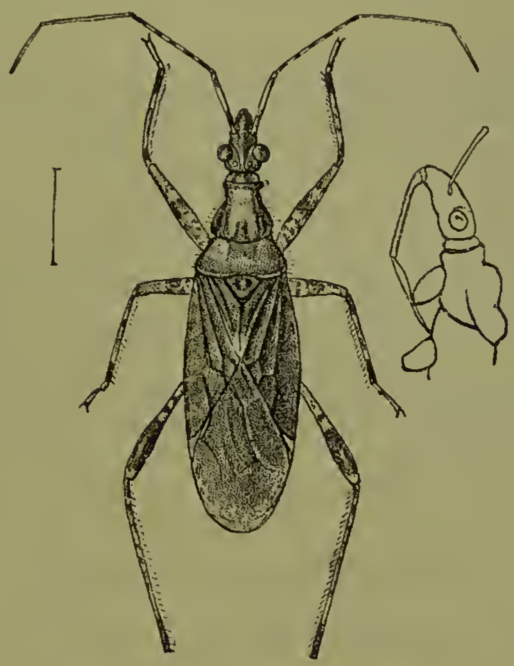

Fig. 120.—*Nabis mussooriensis.*

the abdominal apex; abdomen beneath thickly, finely, greyishly sericeous.

Length ♀ 9 millim.

Hab. N.W. India; Mussoorie.

This species appertains to the subgenus *Æptus*, Hahn, and is allied to the South-African *N.* (*Æptus*) *hottentota*, Reut.

Genus ACANTHOBRACHYS to replace Lorichius. (Vol. II, p. 402.)

Acanthobrachys, *Fieb. Eur. Hem.* p. 43 (1861); *Bredd. Mitt. Nat. Mus. Hamb.* xxii, (2) p. 145 (1905).
Arbela, *Stål, Hem. Afr.* iii, pp. 38–42 (1865); *Reut. Mém. Soc. Ent. Belg.* xv, p. 125 (1908).
Lorichius, *Dist.* (vol. ii, p. 402).

Breddin (*supra*) pointed out the identity of the above genera. Reuter has advocated the substitution of the later name *Arbela*, Stål, because Fieber, who described his genus *Acanthobrachys* in his 'Die europäischen Hemiptera,' stating in a foot-note it was "exotisch," had neither given nor described a representative species. This certainly is a practice to be deplored, but Stål himself very considerably pursued that practice in his 'Hemiptera Africana,' where genera without types are frequently

described from other regions, though in subsequent papers he solved these problems. Fieber may probably have intended to have acted in the same manner, and as there is no doubt as to his genus, in this case I follow Breddin rather than Reuter.

Acanthobrachys nitidula, *Stål* (Nabis), *Freg. Eug. resa, Ins. Hem.* p. 261 (1859); *id.* (Arbela) *Öfv. Vet.-Ak. Förh.* 1870, p. 704; *Reut. Mém. Soc. Ent. Belg.* xv, p. 125 (1908).
Lorichius umbonatus, *Dist.* (vol. ii, p. 402).

Reuter, who has examined a large number of specimens, states that the above are identical. Stål in describing *Arbela* did so from a female specimen, and thus missed the male character of the posterior tibiæ globosely clavate near base, by which I was misled.

Add: *Hab.* Bengal; Monghyr (*Jenkins*). Annam, Java, Sumatra, Borneo, New Guinea. New Hebrides (*fide Reuter*).

Subfamily VELOCIPEDINÆ.

Velocipedinæ, *Bergr. Wien. ent. Zeit.* x, p. 265 (1891).

A subfamily founded by Bergroth for the reception of the following genus. Bergroth placed it in the family Saldidæ, where I did not look for it, nor where do I still regard it as happily placed. I was, however, very much more in error in locating it where I did, though I wrote "*Godefridus* is included though somewhat aberrant."

Genus **VELOCIPEDA** to replace **Godefridus**. (Vol. II, p. 328.)

Velocipeda, *Bergr. Wien. ent. Zeit.* x, p. 263 (1891).
Godefridus, *Dist.* (vol. ii, p. 328).

VELOCIPEDA ALIENA.

Godefridus alienus, *Dist.* (vol. ii, p. 329).
Velocipeda prisca, *Kirk.* (*nec Bergr.*) *Trans. Am. Ent. Soc.* xxii, p. 149 (1906).

Family SALDIDÆ. (Vol. II, p. 404.)

Subfamily SALDINÆ. (Vol. II, p. 404.)

Genus SALDA. (Vol. II, p. 404.)

SALDA DIXONI. (Vol. II, p. 405.)

Since describing this species I have seen many more examples. It is of a somewhat variable nature; frequently not only the first joint, but also the second joint of the antennæ is luteous, and in some varieties the lateral margins of the corium are not luteous, but paler in hue and of almost the same hue as the membrane.

Add: *Hab.* Punjab; Simla Hills, Theog, 8000 ft. (*Annandale*). Bengal; Calcutta. Ceylon; Weligama (*Bainbrigge-Fletcher*).

"Jumping and flying at edge of pond" (*Annandale*).

2998. **Salda inconstans**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 375 (1909).

Pitchy black, thickly shortly palely pilose; legs ochraceous, more or less streaked with black or piceous; corium spotted with greyish ochraceous, first and second spots at about one-third from

Fig. 121.—*Salda inconstans.*

base and each enclosing a dark spot, one on each side of apex of clavus, two (larger) near each of these on corium, a large irregular spot on disk of corium before membrane and another spot on sub-costal area near apex; membrane pale greyish ochraceous, a black spot near each outer margin, the apex and central longitudinal suffusions pale fuscous, the base narrowly piceous; antennæ with the third and fourth joints subequal in length or third slightly

longer than fourth; rostrum reaching the posterior coxæ; pronotum more than twice broader than long, the lateral margins roundly oblique, the posterior margin moderately concavely sinuate before scutellum, and with a transverse impression on disk; scutellum broad, transversely impressed before middle; corium with the costal margin moderately convexly rounded; membrane passing the abdominal apex; tibiæ spinulose.

Var. *a*. Corium with a single ochraceous spot on costal margin before apex, membrane darker, the suffusions piceous.

Var. *b*. Corium with a central apical pale spot before membrane which is marked and shaded as in typical form.

Length $4\frac{1}{2}$ millim.

Hab. Punjab; Simla Hills, Matiana (*Annandale*).

Under stones at edges of mountain streams; jumping and flying at edge of pond (*N. Annandale*).

2999. **Salda fletcheri**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 375 (1909).

Black; apical joint of antennæ, rostrum, coxæ, legs, and abdominal segmental margins more or less ochraceous; corium black with the costal margin, a spot near apex and base of each side of clavus, a basal longitudinal streak, four spots on subcostal area

Fig. 122.—*Salda fletcheri.*

and three on inner area ochraceous, those on the subcostal area somewhat whitish; membrane piceous, the lateral margins and a transverse series of small spots behind middle ochraceous, nearer base a transverse series of more obscure spots; antennæ with

the third and fourth joints subequal in length, second longest; pronotum with the basal margin strongly concavely sinuate before scutellum, the lateral margins oblique, a little sinuate, the anterior margin about half the breadth between posterior angles; corium somewhat convexly rounded at costal margin; scutellum foveately impressed on disk; rostrum reaching the posterior coxæ; tibiæ distinctly spinulose.

Length $4\frac{1}{2}$ millim.

Hab. Ceylon; Madulsima (*Bainbrigge-Fletcher, Brit. Mus.*).

3000. **Salda pusana**, *Dist. Ann. Soc. Ent. Belg.* liii, p. 376 (1909).

Allied to *S. fletcheri*, Dist., but with the antennæ and rostrum wholly black; legs black, base of anterior femora and more than basal halves of intermediate and posterior femora, and basal annulations to tibiæ, pale ochraceous; corium with the pale costal margin narrowed and somewhat interrupted before apex, the spots on subcostal area three in number; antennæ with the third joint slightly longer than fourth, other structural characters as in *S. fletcheri*.

Length $4\frac{1}{2}$ millim.

Hab. Bengal; Lebong, 5000 feet (*Lefroy*).

Mr. Lefroy sent me three specimens of this species (all unfortunately more or less mutilated in condition) from the Pusa collection.

Subfamily LEPTOPINÆ. (Vol. II, p. 406.)

Genus **LEPTOPUS** to replace **Valleriola**. (Vol. II, p. 405.)

Leptopus, *Latr. Fam. nat.* p. 423 (1825); *Fieb. Eur. Hem.* pp. 40 & 148 (1861); *Oshan. Verz. Pal. Hemipt. Heteropt.* p. 603 (1908).

Type, *L. boopis*, Fourc.

Distribution. Palæarctic, Ethiopian, and Oriental Regions.

The question of the distinction of *Valleriola* from *Leptopus* has been disputed by Bergroth and somewhat amusingly assailed by Reuter. I relied on the number of the ocelli, accepted by Fieber, Saunders and his predecessors, and apparently uncontradicted, till I had followed suit. However, now that so sound and capable an authority as Oshanin has given his adhesion to that view, I follow his determination. The argument is of a taxonomical character.*

* My views on this entomological controversy, whatever they may be worth, may be found in the Wien. entomol. Zeit. xxvi, p. 327 (1907).

Leptopus assuanensis, *Costa, Atti Acc. Soc. Napoli*, vii, p. 9 (1875).
Leptopus niloticus, *Reut. Berl. ent. Zeitschr.* xxv, p. 161 (1881).
Leptopus strigipes, *Bergr. Ann. Soc. Ent. Fr.* 1891, p. cli.
Valleriola greeni, *Dist.* (vol. ii, p. 406).

Add: *Hab.* Central Indian Province; Nagpur. Bengal; Pusa (*Lefroy*). Egypt; Nubia; Madagascar.

3001. **Leptopus cicindeloides**, *Dist.* (Valleriola), *A. M. N. H.* (8) iii, p. 40 (1908).

Greyish ochraceous, thickly shortly palely pilose; head, anterior lobe of pronotum, and four short longitudinal fasciæ (not reaching basal margin and sometimes fused in pairs) to posterior lobe greyish fuscous; eyes, ocelli, anterior collar to pronotum, and a small spot near each posterior pronotal angle piceous; scutellum

Fig. 123.—*Leptopus cicindeloides.*

greyish-fuscous, with the apex pale; body beneath and legs greyish-ochraceous; longitudinal streaks and apices to femora and transverse segmental shadings to abdomen beneath piceous; corium greyish fuscous; costal and inner claval margins, two spots on clavus (one near base, the other near apex), two spots near middle of corium, and a cluster of spots at its apex very pale ochraceous; membrane pale greyish ochraceous, the veins fuscous; antennæ pale fuscous, basal joint and apex of apical joint very pale ochraceous, second joint ochraceous, with its apex darker; head transversely concave between the eyes; pronotum strongly

transversely impressed behind the dark anterior collar, the anterior lobe with the anterior and lateral margins and a central longitudinal line greyish ochraceous, its surface with some large and coarse punctures, posterior lobe subgranulose, giving the appearance of dense paler spots, the lateral margins longly pilose; scutellum foveately depressed on basal area, its apical area ridged; legs finely pilose, the femora more strongly so; ocelli two.

Length $5\frac{1}{2}$ millim.

Hab. Bengal; Pusa (*Maxwell-Lefroy*).

3002. **Leptopus travancorensis**, sp. n.

Head ochraceous, the area of the ocelli and the lateral areas black; antennæ with the first joint and second joint excluding apex ochraceous, third joint fuscous (remainder mutilated in typical specimen); pronotum black, the anterior collar, lateral and

Fig. 124.—*Leptopus travancorensis.*

posterior margins, and two small curved spots on disk of posterior lobe, ochraceous; scutellum black, its apex obscurely ochraceous; clavus and corium black; margins of clavus, broad costal margin, and five small spots to corium pale ochraceous; membrane fuliginous with the veins darker; body beneath black, legs and abdominal segmental margins ochraceous; antennæ with the first joint slightly passing apex of head, second joint considerably shorter than third; pronotum very strongly transversely constricted, the anterior lobe with two nodulose elevations on disk, the posterior lobe coarsely punctate, anterior femora strongly spinose beneath.

Length $3\frac{1}{2}$ millim.

Hab. Travancore.

Family CERATOCOMBIDÆ.
(Vol. II, p. 408.)

Genus **CERATOCOMBUS.**

Ceratocombus, *Sign. Ann. Soc. Ent. Fr.* x, p. 541 (1852); *Fieb. Eur. Hem.* pp. 39 & 142 (1861); *Reut. Act. Soc. Scient. Fenn.* xix, no. 6, p. 4 (1891); *Saund. Hem. Het. Brit. Islds.* p. 188 (1892).
Lichenobia, *Baer. Berl. ent. Zeitschr.* i, p. 165 (1857).
Subgen. Leptonannus, Trichotonannus, Xylonannus, *Reut. tom. cit.* pp. 5, 6 & 8 (1891).

Type, *C. coleoptratus*, Zetterst.
Distribution. Probably of almost universal distribution.

"Head convex, eyes very far apart, the ocelli placed close to their inner margin; antennæ with their first and second joints stout, the third longer than the first and second together, fourth subequal to the third, third and fourth very thin, clothed with long hairs; pronotum convex, nearly square, sides subparallel, straight; scutellum triangular, its sides and base about equal; elytra very rarely developed; in the undeveloped form each consists of a convex simple sheath covering the abdomen, nerves apparent towards the apex, lateral margins reflexed at the base; in the developed form the elytra are widened behind, the clavus is distinctly marked, and there appears to be a somewhat distinct membrane; legs with the anterior coxæ very large, tibiæ rather stout, tarsi three-jointed." (*Saunders.*)

3003. **Ceratocombus setulosus**, *Reut.* (Trichotonannus), *Act. Soc. Scient. Fenn.* xix, no. 6, p. 6. f. 2 (1891).

"Fuliginous, opaque, above fuscously setulose, setæ in certain lights flavous, head longly setose; rostrum, antennæ, and legs

Fig. 125.—*Ceratocombus setulosus.*

palely flavous-testaceous; pronotum at base less than twice as broad as long, lateral margins with 4–5 long rigid exserted setæ."

"Head distinctly longer than breadth with eyes, as broad as the apex of pronotum; antennæ with the second joint nearly three times longer than the first; pronotum and head equally long, the length equal to about $\frac{3}{5}$ the width of the basal margin and a little less than the apical margin, the sides moderately and broadly subsinuate, anterior angles rectangular, base broadly sinuate, disk with a fine continuous longitudinal impressed line; hemelytra with the lateral margins incrassate, continued towards apex of membrane, subequally narrowed; tibiæ longly spinose." (*Reuter.*)

Length $2\frac{1}{2}$ millim.

Hab. Nicobar Islands; Naukauri (*fide Reuter*).

I have not seen this species and only know it by Reuter's description and figures which are here reproduced. The type was supposed to be in the Copenhagen Museum, but I am informed by Dr. Adam Böving of that institution—"*Ceratocombus setulosus* is certainly lost. I have not been able to find the type."

Family CIMICIDÆ. (Vol. II, p. 410.)

Genus CIMEX. (Vol. II, p. 410.)

Cimex rotundatus.

Cimex rotundatus, *Sign. Ann. Soc. Ent. Fr.* 1852, p. 540, pl. xvi, f. 2; *Stål, Hem. Afr.* iii, p. 25 (1865); *Patton, Ind. Med. Gaz.* xlii, no. 2, p. 2 (1907); *id. Rec. Ind. Mus.* ii, p. 153, pl. xiii, figs. 1, 2, 5 (1908); *Horv.* (Clinocoris), *Ann. Mus. Hung.* vii, p. 632 (1909).

Klinophilos horrifer, *Kirk. Bull. Liverp. Mus.* ii, p. 45 (1899); *id.* "*Nat. Hist. Sokotra & Abd-el-Kuri,*" p. 383, pl. xxiii, f. 3 (1903).

Cimex macrocephalus, *Fieb.* (vol. ii, p. 411).

Since I enumerated the Cimicidæ of this fauna, Capt. W. S Patton, I.M.S., has made a careful study of the Indian bed-bugs, and from specimens received from the Island of Réunion was able to prove that the *C. macrocephalus* of Fieber was a synonym of *C. rotundatus*, Sign., a name that must now be substituted for that insect. Dr. Annandale has found it in the nest of the Common Swift at Calcutta.

Add: *Hab.* Mauritius; Réunion; Socotra Isld.; W. Africa; West Indies.

Family CAPSIDÆ. (Vol. II, p. 412.)

As was to be expected the enumeration of this family is largely increased since Vol. II. was published in 1904. This is principally owing to the number of species received from India since that date, chiefly by the willing and great assistance of Dr. Annandale, the Superintendent of the Indian Museum. Other Indian collectors have also considerably helped to swell the list, and their contributions are gratefully acknowledged in the following pages.

I have nothing to add or to qualify in the introductory remarks I wrote to this family (Vol. II, pp. 412–414). They have received strong animadversions from Dr. Reuter, the well-known specialist on the Capsidæ, who seems to regard courteous divergence of taxonomical opinion as a personal matter and to have replied in that spirit. I regret the incident, but have nothing to retract or to withdraw. No one more admires Reuter's life-labour in the elucidation of this difficult family than myself, but this does not constitute a responsibility to follow a classification which I am unfortunately unable to understand adequately.

Genus EBUTIUS.

(To follow *Onomaus*, Vol. II, p. 416.)

Ebutius, *Dist. A. M. N. H.* (8) iv, p. 440 (1 99).

Type, *E. bellus*, Dist.

Distribution. Northern India.

Head subequal in length to the pronotum, transversely impressed behind the eyes, which are well separated from the anterior margin of the pronotum, between the eyes distinctly longitudinally sulcate, the disk moderately convex, obtusely attenuated in front of the insertion of the antennæ, where it is a little ridged and excavated on each side; antenniferous tubercles prominent; first joint of the antennæ robust and about as long as the head, second joint slender, nearly three times as long as the first, third and fourth short, together longer than first; rostrum reaching the intermediate coxæ; pronotum transversely constricted before middle, this anterior area somewhat transversely striate at anterior margin and with a distinct moderately transverse tubercle immediately in front of each side of the constriction, posterior area convexly deflected from base, thickly punctate, the lateral margins carinate and oblique, posterior lateral angles subprominent, basal margin a little concave before scutellum, which is somewhat large and triangular, and slightly foveate at each basal angle; hemelytra a little more than twice as long as head and pronotum together, clavus broad, cuneus elongately angulate, membrane

apparently (as seen in spirit-specimens) with a single cell truncate posteriorly; legs slender, the femora slightly but regularly thickened, posterior tarsi with the basal joint almost as long as remaining joints together.

3004. **Ebutius bellus**, *Dist. A. M. N. H.* (8) iv, p. 441 (1909).

Uniformly pale ochraceous as seen in spirit-specimens (possibly virescent in living or fresh examples); scutellum with a linear,

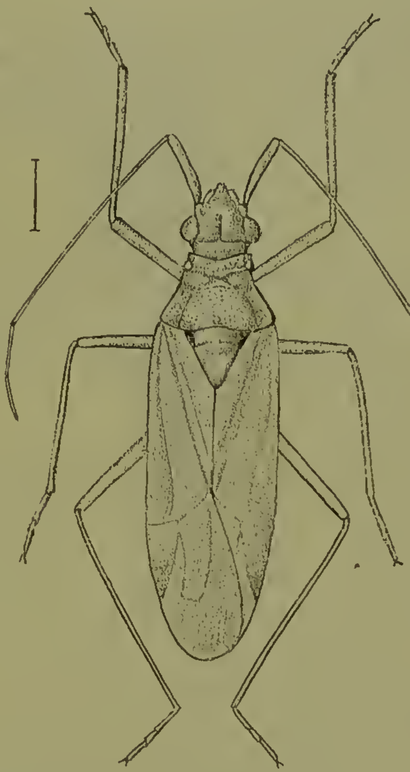

Fig. 126.—*Ebutius bellus.*

foveate, piceous spot on each basal angle; basal joint of antennæ with a few short obscure hairs; other characters as in generic diagnosis.

Length $6\frac{1}{2}$ to 7 millim.

Hab. Sikhim (*Major Roberts*).

The above generic and specific descriptions are based on a few spirit-specimens given to me by the late Col. Bingham.

In this enumeration of the Capsid fauna of British India, *Ebutius* is allied to *Onomaus*, Dist., and is placed in the division Herdoniaria of the subfam. Mirinæ (vol. ii, p. 414).

Genus **HARPEDONA.** (Vol. II, p. 418.)

3005. **Harpedona sanguinipes**, *Dist. A. M. N. H.* (8) iv, p. 441 (1909).

Head, pronotum, and scutellum black; antennæ black, the basal

joint pale sanguineous; corium piceous, the costal margin narrowly ochraceous; membrane fuscous, the apex paler and the veins darker; head beneath and sternum black, abdomen beneath piceous; femora pale sanguineous, tibiæ and tarsi pale ochraceous; head centrally longitudinally sulcate; second joint of antennæ scarcely more than twice as long as first; pronotum transversely constricted before middle, the anterior lobe distinctly centrally foveate at base, posterior lobe obsoletely punctate.

Length 4 millim.

Hab. Darjiling; Pussumbing, 4700 ft. (*R. H. Mann*).

Allied to the Ceylonese species *H. marginata*, Dist. (vol. ii, p. 419), from which it differs by the different colour of the legs and of the basal joint of the antennæ, posterior lobe of the pronotum much less distinctly punctate, &c.

Genus **CINNAMUS**.

(To follow *Harpedona*, Vol. II, p. 418.)

Cinnamus, *Dist. A. M. N. H.* (8) iv, p. 441 (1909).

Type, *C. rhinoceros*, Dist.

Distribution. Ceylon.

Vertex convex, anteriorly, centrally, pointedly produced; eyes prominent, contiguous to the anterior margin of the pronotum, but projecting beyond it, the disk centrally longitudinally sulcate; antennæ long, the basal joint moderately robust, sparsely hirsute, about as long as the pronotum, second joint more than twice as long as first and about as long as third and fourth together; rostrum reaching the posterior coxæ; pronotum transversely constricted near middle, the anterior area with a distinct rugose collar, and with a moderate transverse tubercle on each side immediately in front of the transverse impression, posterior area deflected from base, which is concave and thus exposes the mesonotum, the lateral margins oblique; scutellum triangular with a small subbasal central tubercle; corium slightly longer than space between the apices of head and scutellum, clavus moderately raised and deflected on each side, cuneus somewhat broadly triangular, the cuneal fracture distinct; membrane with a short, posteriorly truncate basal cell; legs long and slender, finely spinulosely hirsute, femora moderately and evenly thickened, all the tibiæ longer than the femora, basal joint of posterior tarsi short and moderately thickened.

Among the Capsidæ of British India this genus may be located between *Harpedona* and *Clapmarius*.

3006. **Cinnamus rhinoceros**, *Dist. A. M. N. H.* (8) iv, p. 442 (1909).

Head, pronotum, mesonotum, and scutellum pale mottled fuscous brown; anterior collar and posterior lobe of pronotum mottled

brownish ochraceous, apex of scutellum ochraceous; antennæ and eyes blackish; clavus pale ochraceous, its basal third and apical area mottled fuscous brown; corium ochraceous, much mottled with fuscous brown and with an oblique transverse piceous fascia

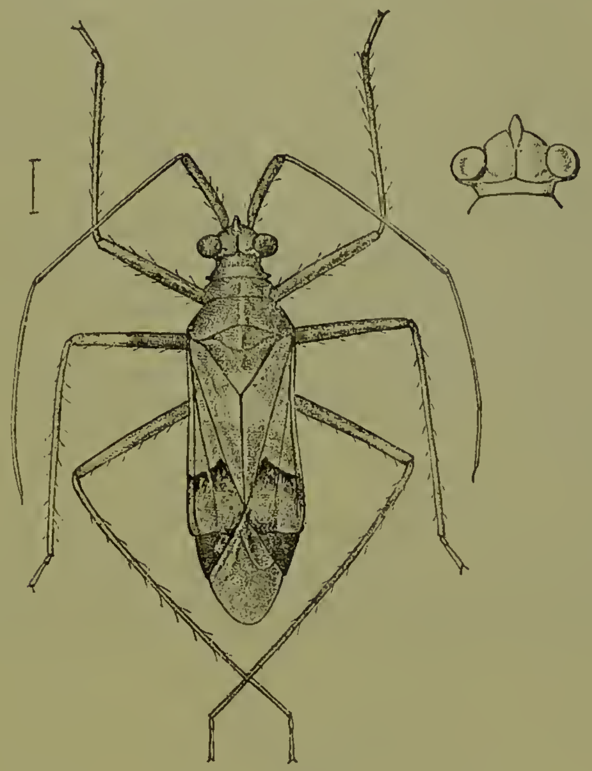

Fig. 127.—*Cinnamus rhinoceros.*

at about one-third before apex, cuneus shining black; membrane fuscous, blackish on basal area, margins of cell dull greyish; body beneath piceous, mesosternum ochraceous; legs piceous, femora obscurely palely annulate near apices; body above shortly obscurely pilose; mesonotum with a central longitudinal pale line; structural characters as in generic diagnosis.

Length 5 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus **ZALMUNNA.**

Zalmunna, *Dist. A. M. N. H.* (8) iv, p. 442 (1909).

Type, *Z. dux*, Dist.

Distribution. Ceylon.

Head elongate, almost as long as the pronotum, the central lobe prominent at apex, behind which it is transversely impressed, between eyes shortly longitudinally sulcate; eyes short, somewhat adpressed, contiguous to the anterior margin of the pronotum;

antennæ with the first joint stout, attenuated at its base, about as long as head, remaining joints slender, second more than twice as long as first, third shorter than second, but considerably longer than fourth; rostrum passing the posterior coxæ, first joint robust and as long as head; pronotum moderately declivous from base to apex with a distinct narrow anterior collar, somewhat obscurely transversely impressed before middle, the lateral margins oblique, basal margin truncate; scutellum triangular, slightly longitudinally foveate at each basal angle; hemelytra passing the abdominal apex, corium elongate, the costal margin slightly rounded, cuneus acutely subtriangular, the cuneal fracture distinct; membrane with a prominent posteriorly truncate cell; legs of moderate length, posterior femora incrassated, tibiæ finely spinulose, posterior tibiæ about as long as corium, posterior tarsi with the basal joint almost as long as remaining joints together.

Allied to the S. African genus *Nymannus*, Dist., and in this enumeration of the British Indian Capsidæ to be placed near the genus *Clapmarius*.

3007. **Zalmunna dux**, *Dist. A. M. N. H.* (8) iv, p. 443 (1909).

Reddish ochraceous, shortly finely pilose; antennæ ochraceous, the basal joint brownish ochraceous; head, pronotum, and scutellum with a more or less distinct pale central longitudinal line, the

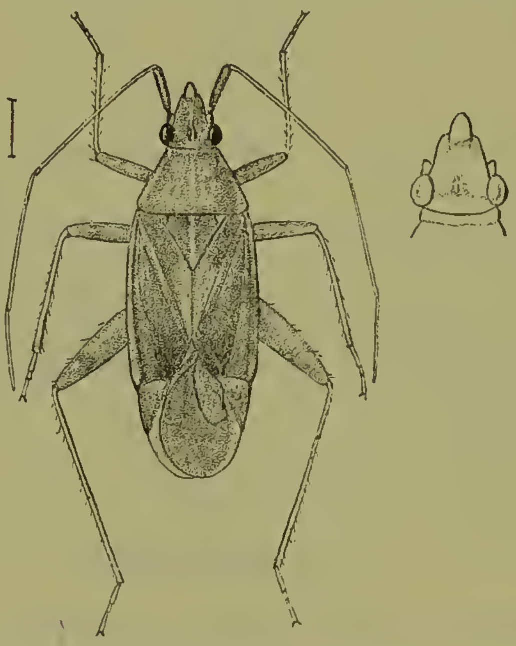

Fig. 128.—*Zalmunna dux.*

scutellum darker and more reddish ochraceous, clavus dark reddish ochraceous on basal half, somewhat dull greyish on apical half; corium dark reddish ochraceous, the costal margin ochraceous, cuneus with the basal margin dull greyish; membrane pale fuscous,

the lateral margin paler; body beneath and legs reddish ochraceous; basal joint of rostrum, basal disk of abdomen, tibiæ, tarsi, and apical annulations to femora pale ochraceous; structural characters as in generic diagnosis.

Length $5\frac{1}{2}$ millim.

Hab. Ceylon; Trincomalee (*Green*).

Genus MYSTILUS. (Vol. II, p. 420.)

3008. **Mystilus antrami**, *Dist. A. M. N. H.* (8) iv, p. 443 (1909).

Head, antennæ, pronotum, and scutellum dull black; apex and two spots at base of head and anterior and posterior margins of pronotum pale ochraceous; hemelytra very pale ochraceous, subhyaline, membrane reflecting the dark abdomen beneath; head and abdomen beneath pale ochraceous, the sternum and apex of abdomen black; legs pale ochraceous, the femora (especially the anterior) much mottled with black, more densely so on apical areas, posterior tibiæ black, with a long apical pale ochraceous annulation; rostrum pale ochraceous, its apex black; head deeply longitudinally sulcate between the eyes, which are contiguous to the anterior margin of the pronotum; antennæ much longer than the body, basal joint almost as long as the head and pronotum together; pronotum very coarsely punctate, anterior collar distinct, transversely constricted at about one-third from anterior margin, in front of which are two distinct callosities with a short central longitudinal carinate line between them; cuneus a little longer than broad, concolorous with the pale corium.

Length 4 millim.

Hab. Cachar; Koomber (*Antram*).

3009. **Mystilus manni**, *Dist. A. M. N. H.* (8) iv, p. 444 (1909).

Head black, its apex pale ochraceous, two dull ochraceous spots at base; antennæ black, the basal joint ochraceous, more or less mottled or spotted with black; pronotum ochraceous, the anterior collar dull greyish, the anterior transverse callosities a little darker; scutellum ochraceous; hemelytra stramineous, semihyaline; clavus with the inner margins and the apex of the suture black, cuneus concolorous, membrane reflecting the dark abdomen beneath; head beneath and sternum pale ochraceous, abdomen beneath more or less greyish; legs ochraceous, femora finely mottled or spotted with black, posterior tibiæ black with a long pale ochraceous apical annulation.

Length $4\frac{1}{2}$ millim.

Hab. Cachar; Koomber (*Antram*).

This species is allied to *M. antrami* by the concolorous cuneus, but differs from it in the different colour of the pronotum and scutellum, the absence of the short carinate line between the pronotal callosities, &c.

Genus **MEGALOCERÆA**. (Vol. II, p. 424.)

MEGALOCERÆA ANTENNATA. (Vol. II, p. 424.)

Since I described this species from Kurseong I have received a number of specimens from the same locality, which afford an opportunity of a more precise diagnosis. In fresh specimens the colour is virescent, not "dull pale ochraceous," which is, however, the hue in older and more dried examples. In fresh specimens the antennæ are castaneous-brown with the basal joint virescent, speckled with sanguineous; the legs are also virescent with the apical halves of the posterior tibiæ and all the tarsi castaneous brown, the tarsal claws black; the basal joint of the antennæ is moderately thickened and strongly hirsute, the remaining joints slender, the second joint twice as long as first and subequal in length to third, fourth joint greyishly pubescent and much shorter than third.

Add: *Hab.* Darjiling, 6000 ft. (*Brunetti*).

"Swept from grass and low herbage."

MEGALOCERÆA DOHERTYI. (Vol. II, p. 425.)

Since describing this species from Tenasserim I have examined a series of fresh specimens from Calcutta. In the latter the colour is pale virescent rather than the pale ochraceous in older and dried examples; antennæ purplish-red, first joint about as long as head, second about or nearly twice as long as first; the exposed mesonotum with a dark spot on each side, black in fresh specimens, brownish in faded examples.

Add: *Hab.* Calcutta, Darjiling, 6000 ft. (*Brunetti*). Orissa; Balighai, near Puri (*Annandale*). Ceylon; Trincomalee (*Green*).

Genus **LASIOMIRIS** to replace **Matenesius**. (Vol. II, p. 425.)

Lasiomiris, *Reut. Rev. d'Ent.* 1891, p. 130.
Matenesius, *Dist.* (vol. ii, p. 425).

Lasiomiris albopilosus, *Leth.* (Miris) *Ann. Mus. Civ. Gen.* (2) vi, p. 464 (1888).
Lasiomiris lineaticollis, *Reut. Rev. d'Ent.* 1891, p. 130.
Matenesius marginatus, *Dist.* (vol. ii, p. 426).

Add: *Hab.* Sumatra, Java.

I had consulted Reuter's description of his genus *Lasiomiris*, but had been led astray by the undue prominence given to one character: "body above with hemielytra longly pilose." This may have also been the cause of Reuter redescribing Lethierry's species.

Genus MEGACŒLUM. (Vol. II, p. 427.)

I am now able to add the descriptions of eight more species of this genus, though probably the enumeration is still very inadequate.

3010. **Megacœlum insignis**, *Dist. A. M. N. H.* (8) iv, p. 444 (1909)

Very pale ochraceous; antennæ with the under surface of the first joint, a central annulation and apex to second joint, and two contiguous annulations and apex to third joint, black; eyes black; narrow lateral margins to pronotum, narrow lateral margins to scutellum (excluding base), narrow margins to the claval suture, a basal subcostal line to corium and three prominent rounded spots—one before costal margin near middle, the other two before basal margin of cuneus—black; apex of rostrum black; head with a fine central longitudinal sulcation between the eyes; first joint of antennæ nearly half as long as second joint, third a little shorter than second (fourth mutilated in typical specimen); rostrum slightly passing the posterior coxæ; corium shortly sparingly palely pilose; membrane considerably passing the abdominal apex; posterior legs mutilated in typical specimen; anterior and intermediate tibiæ spinulose.

Length incl. membr., ♀, 9 millim.

Hab. Mussoorie (*coll. Dist.*).

3011. **Megacœlum tibialis**, *Dist. A. M. N. H.* (8) iv, p. 445 (1909).

Black, finely shortly greyishly pilose; antennæ with the first joint black, second and third joints ochraceous, base and apex of second joint narrowly black; legs black, apices of anterior and intermediate femora, the anterior and intermediate tibiæ (excluding extreme apices), coxæ, and the tarsi (more or less) ochraceous; head finely, centrally, longitudinaly, sulcately impressed between the eyes; antennæ with the first joint moderately thickened, about half as long as second, third distinctly shorter than second (fourth joint mutilated in typical specimen); rostrum piceous and reaching the posterior coxæ; apex of cuneus castaneous; membrane fuscous, reflecting the dark abdomen beneath and moderately passing the abdominal apex; tibiæ finely spinulose, the spinules black; first joint of posterior tarsi a little shorter than second joint.

Length incl. membr., 8 millim.

Hab. Simla Hills, Dharampur, 5000 ft.

3012. **Megacœlum pervalidum**, *Dist. A. M. N. H.* (8) iv, p. 445 (1909).

Body and tegmina castaneous brown, somewhat thickly finely palely pilose; costal area of corium widening posteriorly, ochraceous; cuneus pale castaneous; antennæ ochraceous, basal

joint castaneous brown, apical area of second joint piceous; anterior and intermediate femora castaneous brown, their bases and the whole of the tibiæ and tarsi ochraceous, tarsal claws piceous; posterior femora ochraceous, their apical areas and the posterior tibiæ (excluding apex) black; body beneath and coxæ piceous; head finely, linearly sulcate between the eyes; first joint of antennæ about half as long as second joint, third distinctly shorter than second and longer than fourth; rostrum reaching the posterior coxæ; rostrum ochraceous, basal joint castaneous-brown, apex black and reaching the posterior coxæ; pronotum transversely wrinkled; membrane fuscous, somewhat longly passing the abdominal apex; tibiæ spinulose, the spinules black.

Length incl. membr., 9 millim.

Hab. Nepal; Soondrijal and Nagorkote (*Ind. Mus.*). Pussumbing; Darjiling (*Mann*).

In some specimens the margin of the costal area to corium is castaneous brown.

3013. **Megacœlum straminipes,** *Dist. A. M. N. H.* (8) iv, p. 446 (1909).

Head brownish ochraceous, eyes black; antennæ with the first joint piceous, second piceous biannulated with ochraceous, third joint fuscous, its base ochraceous; pronotum shining black, the narrow anterior collar and extreme basal margin pale ochraceous; scutellum and corium black, finely pilose, the costal margin of the latter brownish ochraceous; cuneus brownish ochraceous, its outer margin and inner angle black; membrane fuscous, reflecting the dark abdomen beneath; body beneath piceous; legs stramineous, the posterior tibiæ black; head finely longitudinally sulcate between the eyes; antennæ with the basal joint moderately thickened, about half as long as second, third only a little shorter than second (fourth mutilated in typical specimen); pronotum finely transversely wrinkled and with two distinct callosities near anterior margin; membrane considerably passing abdominal apex; rostrum stramineous and reaching the posterior coxæ; tibiæ spinulose, the spinules black.

Length incl. membr., 7 millim.

Hab. Kangra Valley, 4500 ft. (*Dudgeon*).

3014. **Megacœlum mussooriensis,** *Dist. A. M. N. H.* (8) iv, p. 446 (1909).

Head black, posterior margins of eyes ochraceous; antennæ black, second joint usually brownish ochraceous except at base and apex; pronotum brownish ochraceous, the anterior collar and extreme posterior margin pale ochraceous, two contiguous transverse black spots near anterior margin and with a blackish suffusion near posterior margin; scutellum piceous or black;

corium piceous brown, shortly, palely, sparingly pilose, the costal margin pale ochraceous, cuneus pale castaneous brown: membrane piceous; body beneath and legs black, the anterior and intermediate tibiæ more or less brownish ochraceous; head narrowly, longitudinally sulcate between the eyes; antennæ with the basal joint moderately thickened, about as long as the pronotum, second joint a little more than twice as long as the first, third joint a little shorter than second and much longer than fourth; scutellum finely transversely striate; corium (including cuneus) about as long as posterior tibiæ, clavus and corium concolorous; rostrum black, with brownish ochraceous suffusions, reaching the posterior coxæ; tibiæ finely spinulose, the spinules black; tarsi more or less ochraceous, their apices black, first and second joints of posterior tarsi subequal in length; membrane largely passing the abdominal apex.

Var. Lateral margins of the pronotum black.

Length 7 to 8 millim.

Hab. Mussoorie (*Brunetti*).

3015. **Megacœlum brunettii,** *Dist. A. M. N. H.* (8) iv, p. 447 (1909).

Head black, the base sometimes piceous; antennæ with the basal joint black, second joint brownish ochraceous, piceous at base and more broadly so at apex, third joint pale ochraceous; pronotum black, the narrow anterior collar and narrow posterior margin pale ochraceous; scutellum black; clavus and corium black, the latter with the costal area, widening to cuneus, brownish ochraceous, the extreme costal margin, widest before cuneus, piceous; cuneus pale castaneous, the inner and outer margins black; membrane fuscous, reflecting the dark abdomen beneath; body beneath, trochanters, and coxæ black; legs sanguineous, bases and apices of femora and tibiæ more or less piceous; tarsi ochraceous; head moderately convex, finely longitudinally sulcate between the eyes; antennæ with the first joint moderately thickened and about as long as pronotum, second slightly more than twice as long as first and distinctly longer than third (fourth mutilated in typical specimens); rostrum brownish ochraceous with piceous suffusions, reaching the posterior coxæ; pronotum, scutellum, and corium sparsely, finely, palely pilose; scutellum smooth, not distinctly striate; corium (including cuneus) about as long as posterior tibiæ; the tibiæ finely spinulose, the spinules black; membrane longly passing the abdominal apex.

Length 7 millim.

Hab. Meerut, 750 ft. (*Brunetti*).

3016. **Megacœlum marginandum,** *Dist. A. M. N. H.* (8) iv, p. 447 (1909).

Head and antennæ ochraceous, eyes black; pronotum ochraceous, the anterior collar and narrow posterior margin paler, the disk

sometimes more or less suffused with blackish; scutellum and corium dull deep ochraceous, the latter with the costal margin pale ochraceous and sparsely finely pilose, cuneus usually with pale castaneous suffusions; membrane pale fuscous, the margins greyish and the basal area darker by reflecting the abdomen beneath; body beneath and legs pale ochraceous, the lateral areas of the abdomen and sometimes the posterior tibiæ rosy red; head moderately convex, finely longitudinally sulcate between the eyes; antennæ with the first joint moderately thickened and not quite so long as the pronotum, second joint about twice as long as first, scarcely longer than third, which is about twice the length of fourth; scutellum moderately convex; corium (including cuneus) a little longer than posterior tibiæ; membrane longly passing the abdominal apex; legs distinctly paler at basal areas, the tibiæ spinulose, the spinules black; rostrum with its apex black and reaching the posterior coxæ; posterior tarsi with the first and second joints subequal in length.

Length 7 to 8 millim.

Hab. Ceylon; Peradeniya (*Green*); Madulsima, Diyatalawa, 4000 ft., Hakgala (*Bainbrigge-Fletcher*).

3017. **Megacœlum patruum,** *Dist. A. M. N. H.* (8) iv, p. 448 (1909).

Head and pronotum obscure ochraceous, somewhat mottled with piceous; antennæ ochraceous, the whole of the first joint, base and apex of second joint, and apical two-thirds of third and fourth joints black; pronotum with the posterior lateral angles narrowly black; scutellum and corium dull pitchy black, the latter with the costal margins ochraceous; cuneus very dark castaneous, its apex pale; head beneath and abdomen more or less brownish ochraceous, the sternum piceous or black; legs stramineous, apical areas of the posterior femora more or less distinctly blackishly biannulate; head finely longitudinally sulcate between the eyes; antennæ with the first joint moderately thickened and about as long as the pronotum, second joint about twice as long as first, second and third subequal in length, third about twice as long as first; scutellum moderately convex; corium (including cuneus) as long as posterior tibiæ; membrane fuscous, longly passing the abdominal apex; rostrum brownish ochraceous, its apex black and reaching the posterior coxæ; tibiæ spinulose, the spinules black.

Var. Basal joint of antennæ brownish, not black.

Length 8 millim.

Hab. Ceylon; Kandy (*Green*), Madulsima (*Bainbrigge-Fletcher*).

Megacœlum biseratensis.

Lygus biseratensis, *Dist.* (Vol. ii, p. 457.)

I originally placed this species in the genus *Lygus*, but have since received better specimens, and find that the head is distinctly longitudinally impressed or sulcate between the eyes.

Genus PHILOSTEPHANUS.

Philostephanus, *Dist. A. M. N. H.* (8) iv, p. 449 (1909).

Type, *P. vitaliter*, Dist.

Distribution. Northern India.

Head a little longer than broad, deflected anteriorly, centrally longitudinally sulcate between the eyes, which are moderately transversely exserted; antennæ with the basal joint only slightly thickened, about as long as head, second joint twice as long as first (remaining joints mutilated in typical specimen); rostrum reaching the posterior coxæ; pronotum much broader than long, moderately convex, deflected anteriorly, lateral margins oblique, anterior and posterior margins truncate; scutellum somewhat small and convex; corium (excluding cuneus) about twice as long as broad, slightly longer than posterior tibiæ, cuneus triangularly elongate, its apex acute; membrane considerably passing the abdominal apex and with a subquadrate posteriorly subtruncate cell; legs of moderate length, the posterior femora distinctly thickened, tibiæ spinulose, posterior tarsi with the first and second joints subequal in length.

Allied to *Megacœlum*.

3018. **Philostephanus vitaliter**, *Dist. A. M. N. H.* (8) iv, p. 449 (1909).

Head ochraceous, speckled with fuscous; antennæ with the first joint ochraceous speckled with fuscous, second joint piceous,

Fig. 129.—*Philostephanus vitaliter*.

centrally paler (remaining joints mutilated in typical specimen); pronotum shining black, posterior margin very narrowly and a short central basal linear spot ochraceous; scutellum shining

black, with a small ochraceous spot at each basal angle; clavus and corium fuscous, largely and somewhat densely mottled with pale ochraceous; cuneus fuscous, its basal area greyish, the extreme apex pale ochraceous; membrane pale fuscous with large greyish suffusions; body beneath and legs ochraceous, a sublateral piceous fascia on each side of sternum, and a similar but narrower and more obscure fascia on each side of abdomen; all the femora and tibiæ annulated with fuscous; head in front of eyes transversely striate, the eyes slightly projecting beyond the anterior margin of the pronotum; other structural characters as in generic diagnosis.

Length $8\frac{1}{2}$ millim.

Hab. Simla.

Genus TANCREDUS.

Tancredus, *Dist.* vol. ii, p. 430 (1904).
Indœlum, *Kirk. Trans. Am. Ent. Soc.* xxxii, p. 138 (1906).

TANCREDUS SANDARACATUS. (Vol. II, p. 430.)

Var. *a*. Pronotum concolorous, pale stramineous; lateral sanguineous fasciæ absent.

Var. *b*. Body entirely pale stramineous; all the sanguineous markings absent.

Add: *Hab.* Bombay (*Dixon*). Calcutta.

TANCREDUS RUBRICATUS. (*Megacœlum rubricatum*, Vol. II, p. 429.)

Indœlum rubricatum, *Kirk. Trans. Am. Ent. Soc.* xxxii, p. 138 (1906).

Var. Lateral areas of pronotum concolorous, not fuscous, the fuscous coloration only appearing as a small spot at the posterior pronotal angles; all the sanguineous coloration much paler, almost obsolete.

Add: *Hab.* Travancore. Ceylon; Madulsima (*Fletcher*).

Genus STECHUS.

(To be placed near *Tancredus*, Vol. II, p. 430.)

Stechus, *Dist. A. M. N. H.* (8) iv, p. 449 (1909).

Type, *S. libertus*, Dist.

Distribution. Ceylon.

Head a little longer than broad, moderately deflected anteriorly, finely longitudinally sulcate between the eyes, which are very large and project beyond the anterior margin of the pronotum; antennæ with the first joint about as long as head and only slightly thickened, second joint three times as long as first and half as long again as third; rostrum reaching the posterior coxæ; pronotum much broader than long, moderately convex and deflected

anteriorly, with a broad transverse callosity near the anterior margin, the lateral margins moderately convex, anterior margin subtruncate, posterior margin a little posteriorly produced at base of scutellum; scutellum moderately convex and subtriangular; corium (excluding cuneus) about twice as long as broad and a little shorter than the posterior tibiæ, cuneus elongately subtriangular, its apex acute, the cuneal fracture distinct; membrane longly passing the abdominal apex, with a subquadrate posteriorly truncate cell; legs of moderate length, femora moderately thickened, the posterior femora more strongly so, tibiæ spinulose, posterior tarsi with first and second joints subequal in length.

3019. **Stechus libertus**, *Dist. A. M. N. H.* (8) iv, p. 450 (1909).

Pale olivaceous-green, inclining to ochraceous in more dried specimens; antennæ black, a subapical annulation to first joint and a subbasal annulation to second joint ochraceous; eyes black; corium and cuneus more olivaceous than the head, pronotum, and

Fig. 130.—*Stechus libertus*

scutellum, the clavus considerably darker, and the inner area of the corium distinctly darker; cuneus pale olivaceous with the apical angle black; membrane pale fuscous; body beneath and legs pale virescent, apical area of posterior femora fuscous brown with a subapical pale annulation; clavus and corium obscurely shortly pilose; structural characters as in generic diagnosis.

Length 5 millim.

Hab. Ceylon; Madulsima (*Bainbrigge-Fletcher*).

Genus ARETAS.

(Near *Tancredus*, Vol. II, p. 430.)

Aretas, *Dist. A. M. N. H.* (8) iv, p. 450 (1909).

Type, *A. imperatorius*, Dist.
Distribution. Ceylon.

Head between eyes as broad as long, very finely centrally longitudinally sulcate, transversely impressed a little before base; eyes longer than broad; antennæ with the basal joint incrassate, spinulose, about as long as head, second joint about three times as long as first, third joint partially mutilated in typical specimen; rostrum reaching the intermediate coxæ; pronotum broader than long, the lateral margins a little concavely sinuate, the anterior margin truncate and ridged, transversely impressed at about one-third before anterior margin, between which and the anterior margin are two transverse callosities, posterior margin subtruncate; scutellum broad, triangular: corium with the costal margin a little convex, excluding cuneus about as long as posterior tibiæ, cuneus somewhat small, subtriangular; membrane passing the abdominal apex; posterior femora strongly incrassate, tibiæ finely spinulose; posterior tibiæ with the first and second joints subequal in length.

3020. **Aretas imperatorius**, *Dist. A. M. N. H.* (8) iv, p. 451 (1909).

Head dull greyish, the eyes black; antennæ stramineous, the

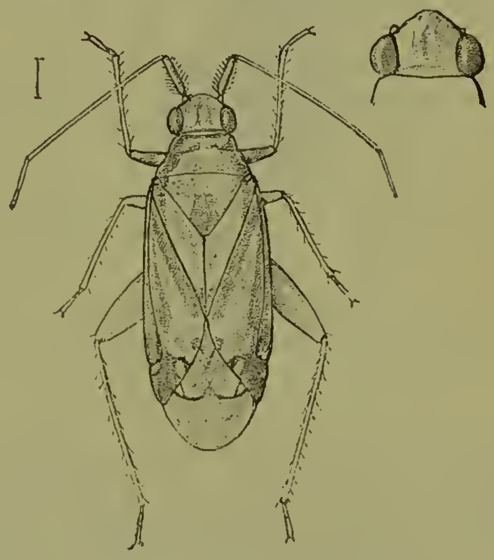

Fig. 131.—*Aretas imperatorius.*

basal joint pale castaneous; pronotum, scutellum, and corium ochraceous; lateral margins of pronotum, a broad central fascia

on apical half of scutellum, base and apex of clavus, costal margin and outside margin of clavus to corium, two small spots before base of membrane, and cuneus (excluding two basal spots) sanguineous; membrane very pale fuscous, the posterior margins of the cells sanguineous; body beneath and legs stramineous, tibial spinules concolorous; rostrum stramineous, apex of basal joint dull sanguineous; structural characters as in generic diagnosis.

Length 4 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus **ELTHEMUS**.

Elthemus, *Dist. A. M. N. H.* (8) iv, p. 451 (1909).

Type, *E. conspicatus*, Dist.

Distribution. Ceylon.

Head a little longer than broad, centrally longitudinally sulcate; eyes transverse, prominent, projecting beyond the anterior margins of the pronotum; antennæ with the first joint thickened, longer than the head, second joint three times as long as first and considerably longer than third, fourth only slightly longer than first; rostrum reaching the posterior coxæ; pronotum much broader than long, narrowed anteriorly, with a short but distinct collar, the lateral margins oblique, posterior margin subtruncate, slightly transversely impressed about one-third from anterior margin, the anterior area with two callosities, in some specimens these callosities are united, the disk (excluding anterior area) finely punctate; scutellum triangular; corium (excluding cuneus) as long as posterior tibiæ and closely finely pilose, cuneus elongately triangular; membrane passing the abdominal apex; legs of moderate length, femora moderately thickened, the posterior femora more strongly so, tibiæ spinulose, posterior tarsi with the first and second joints subequal in length.

Allied to *Tancredus*, Dist., but differing by the greater length of the basal joint of antennæ, the non-prominent pronotal angles, the much larger scutellum, the longer corium, &c.

3021. **Elthemus conspicatus**, *Dist. A. M. N. H.* (8) iv, p. 452 (1909).

Head dull ochraceous, eyes black; antennæ with the first joint blackish, remaining joints brownish; pronotum piceous black, the anterior collar and posterior narrow margin ochraceous; scutellum ochraceous, with piceous suffusions, the most prominent being a more or less distinct basal spot; clavus and corium blackish, the costal area more or less ochraceous, the blackish coloration extending across it near apex as an elongate costal spot; cuneus pale ochraceous, its margins darker; membrane fuscous; body

beneath and legs ochraceous, a broad lateral fascia to sternum and abdomen black, posterior femora annulated with fuscous near apex; structural characters as in generic diagnosis.

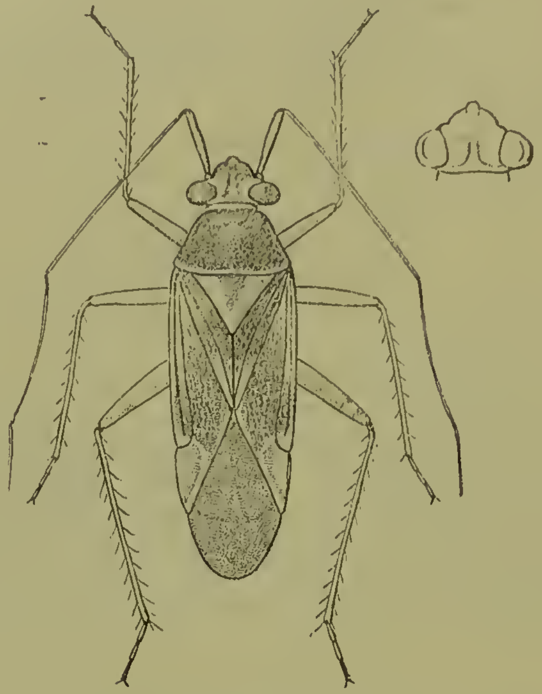

Fig. 132.—*Elthemus conspicatus.*

Length 5–5½ millim.
Hab. Ceylon; Peradeniya (*Green*).

3022. **Elthemus domitus**, *Dist. A. M. N. H.* (8) iv, p. 452 (1909).

Dull ochraceous (perhaps virescent in life), eyes black; pronotum with the collar and narrow posterior margin a little paler, the latter sometimes inwardly margined with piceous; scutellum and corium pale ochraceous, the clavus and inner area of corium brownish ochraceous; membrane pale fuscous, the basal area piceous; body beneath and legs reddish ochraceous, a sublateral fascia to sternum and sometimes a few discal spots to abdomen piceous; femora longitudinally streaked with pale ochraceous; antennæ ochraceous, the basal joint and apex of second joint black or blackish, first joint longer than head, second joint about three times as long as first; head longitudinally sulcate between the eyes; pronotum finely wrinkled and punctate; clavus and corium thickly finely pilose; membrane considerably passing the abdominal apex; posterior femora apically biannulated with brown.

Length 5–5½ millim.
Hab. Ceylon; Peradeniya (*Green*).

Genus **ASERYMUS**, nov., to replace **Zanessa**. (Vol. II, p. 432.)

Type, *A. sanguinolentus*, Dist.

I originally considered that *Zanessa* Kirk., might include only *sanguinolenta* from Ceylon, but more material has altered my opinion. The description given of *Zanessa* (vol. ii, p. 432) and the figure (vol. ii, fig. 278) will suffice, but stress must be laid on the lateral margins of the pronotum which are obliquely straight and not concavely sinuate as in *Zanessa*, the head is also shorter, broader, and not angularly narrowed anteriorly.

Aserymus sanguinolentus.

Zanessa sanguinolenta, *Dist.* vol. ii, p. 432, fig. 278.

Genus DRUTHMARUS.

(To follow *Zanessa*, Vol. II, p. 432.)

Druthmarus, *Dist. A. M. N. H.* (8) iv, p. 452 (1909).

Type, *D. magnicornis*, Dist.

Distribution. Ceylon.

Head about as long as broad between eyes, centrally longitudinally sulcate, anteriorly broadly angulate; eyes exserted, large, transverse, projecting far beyond the anterior margin of the pronotum, directed a little backwardly; antennæ with the basal joint short and incrassate, second joint very strongly incrassate,

Fig. 133.—*Druthmarus magnicornis.*

about four times as long as first, third and fourth joints short, slender, subequal in length; rostrum reaching the posterior coxæ; pronotum much broader than long, obliquely narrowed to head, moderately deflected anteriorly, and prominently deflected before

base of scutellum; scutellum triangular, about as long as head: corium (excluding cuneus) as long as posterior tibiæ; cuneus short and broad, angularly attenuated inwardly; membrane passing abdominal apex; legs of moderate length, tibiæ spinulose, posterior tarsi with the basal joint shortest.

3023. **Druthmarus magnicornis,** *Dist. A. M. N. H.* (8) iv, p. 453 (1909).

Black: third and fourth joints of antennæ piceous, their bases stramineous; membrane with the apical area fuscous brown, the basal area reflecting the dark abdomen beneath; apical areas of intermediate tibiæ and the tarsi (excluding apices) stramineous; corium faintly shortly palely pilose; structural characters as in generic diagnosis.

Length 3 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus **PRODROMUS.** (Vol. II, p. 436.)

3024. **Prodromus cuneatus,** *Dist. A. M. N. H.* (8) iv, p. 453 (1909).

Head, pronotum, and scutellum very pale ochraceous; eyes black; antennæ with the basal joint pale ochraceous, second joint piceous, subapically annulated with pale ochraceous, third and

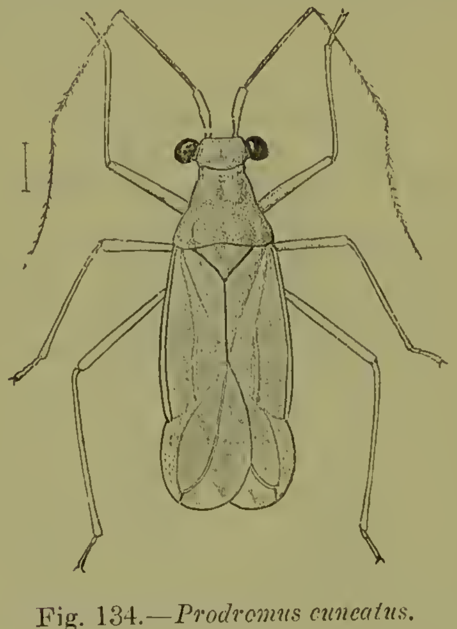

Fig. 134.—*Prodromus cuneatus.*

fourth joints dull greyish; hemelytra hyaline, margins of the clavus and cuneus, costal margin of corium and margins of membranal cell more or less virescent; body beneath very pale ochraceous; legs stramineous, apices of the tarsi black; head

centrally finely medially impressed; eyes prominent, exserted, well separated from the anterior margins of the pronotum; antennæ with the first joint a little longer than head, second more than half as long again as first; pronotum with a narrow anterior collar, transversely constricted before middle and enclosing two callosities, posterior area tumid, thickly somewhat finely punctate; cuneus very long, almost reaching the membranal apex.

Length 5 millim.

Hab. Ceylon; Peradeniya (*Green*).

Distinct from the other described species of *Prodromus* by the length of the cuneus.

Genus APOLLODOTUS.

(To follow *Angerianus*, Vol. II, p. 437.)

Apollodotus, *Dist. A. M. N. H.* (8) iv, p. 454 (1909).

Type, *A. præfectus*, Dist.

Distribution. Bengal; Ceylon.

Head half as long as broad, very broad between eyes, anteriorly perpendicularly deflected, medially longitudinally impressed, transversely impressed behind eyes and narrowed to base; eyes small and placed near apex of head and longly removed from base; antennæ with the basal joint thickened, about as long as head, second joint moderately thickened, more than twice as long as first, third longer than fourth, together little more than half the length of second; pronotum about half as long as breadth at base, with a narrow anterior collar behind which are two transverse constrictions enclosing an area which is centrally carinate and contains a smooth callosity on each side, very strongly narrowed from base to head, the lateral margins straightly oblique; scutellum gibbous, shortly acute at upper posterior angle; corium (excluding cuneus) short, broad, about as long as head and pronotum together, the costal margin a little convexly dilated; cuneus short and broad, the cuneal fracture profound; legs of moderate length, the posterior tibiæ as long as corium and cuneus together, posterior tarsi with the first joint longer than second.

Allied to *Angerianus*, Dist., but shorter, broader, head much shorter and less exserted, pronotum much broader and more regularly narrowed, scutellum distinct.

3025. **Apollodotus præfectus**, *Dist. A. M. N. H.* (8) iv, p. 454 (1909).

Head obscure ochraceous, centrally and behind the eyes marked with black; antennæ with the first joint black, second joint ochraceous, with the apical area black, third and fourth obscure ochraceous; pronotum black, coarsely punctate, a central longitudinal line, lateral margins and the apical basal margins more or

less ochraceous; scutellum black; clavus black, with a large dull ochraceous spot near middle; corium subhyaline, with blackish spots, the two largest forming a transverse fascia near middle; cuneus and membranal cells margined with piceous; membrane pale hyaline, longly passing the abdominal apex; body beneath

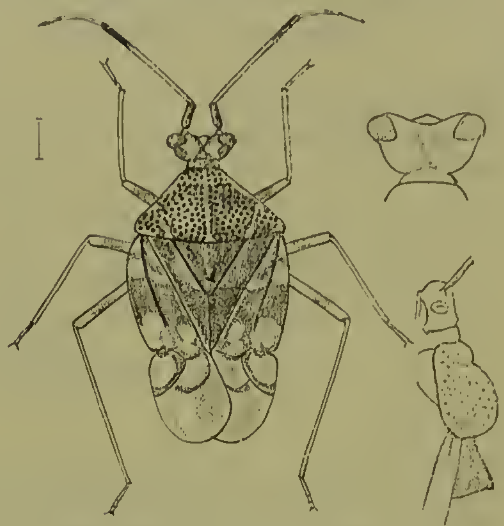

Fig. 135.—*Apollodotus præfectus.*

and legs black, apices of the femora and basal areas of the intermediate and posterior femora ochraceous, tibiæ and tarsi ochraceous; abdomen beneath with two ochraceous spots on each side beyond middle; other structural characters as in generic diagnosis.

Length $3\frac{1}{2}$ millim.

Hab. Bengal; Pusa (*Lefroy*). Ceylon; Eppawala (*Green*).

Genus **HELOPELTIS**. (Vol. II, p. 439.)

3026. **Helopeltis cinchonæ,** *Mann, Mem. Dept. Agric. Ind. Ent.* ser. 1, n. 4, p. 328 (1907).

Male.—" Head black, no tubercle at base of antennæ; antennæ with the first joint stramineous-luteous speckled with black, nodulose and incrassated during most of the length (·97 mm.), second joint dark brown with black tip (3·00 mm), third dark brown, extreme base and apical third black, slightly thickened at apex; rostrum ochraceous-luteous, with dark brown tip (1·60 mm.), second joint (·33 mm.), fourth joint (·50 mm.); pronotum of usual generic shape, wholly black above and below; head and pronotum (1·37 mm.?); scutellum black, scutellar horn black for about a quarter of the length from the bottom, above this luteous throughout, except for extremely narrow ring just below the tip, as stout as in *H. theivora* (in all specimens yet seen), very slightly bent, (1·27 mm.), the clavate tip is not nearly so large relatively to the

thickness of the horn as with *H. theivora*; hemelytra as in *H. theivora*, but with slight suffusion of black throughout, cuneus with apex and inner portion bright red, extending sometimes into the vein of the membrane; black point at base and tip (2·74 mm.); corium (2·90 mm.), cuneus (1·17 mm.), maximum length (4·70 mm.); "hind wing" extremely like *H. theivora*, one additional diagonal vein, separated, in the inner portion of membrane; posterior legs with dark femur with light coloured ring at base, and with variable quantities of reddish-ochraceous; tibia and tarsus ochraceous, former very hairy towards tip and latter hairy; formation of tarsus as in *H. theivora*; femur (2·50 mm.), tibia (3·13 mm.), tarsus (·57 mm.), intermediate and anterior legs not unlike hind leg but less dark in femur; intermediate femur (2·20 mm.), tibia (2·80 mm.), tarsus (·57 mm.); fore femur (2·00 mm.), tibia (2·63 mm.), tarsus (·57 mm.); thorax entirely black; coxæ luteous; abdomen beneath with a black spot near lateral edge of every segment, tip black, no other segments black; abdomen above with five segments and the tip more or less black right across, most intensely so at sides, general colour of abdomen ochraceous.

Female.—Head generally black, but much mixed with brownish-ochraceous, patches of ochraceous behind bases of antennæ; antennæ with the first joint ochraceous with two narrow dark rings (1·13 mm.), second ochraceous with black tip, thinner than first and not thickened (3·22 mm.), third much shorter than second; rostrum colour as in male; pronotum with the collar ochraceous, the posterior portion dark, disk with a black patch extending two-thirds of the length from posterior margin, crossed by two diagonally longitudinal ochraceous lines, remainder ochraceous; head and pronotum (1·73 mm.); scutellum very dark or black, horn (1·57 mm.); thorax with the anterior portion ochraceous, mesothorax black, metathorax ochraceous-luteous, furrow down middle of pro- and mesothorax; coxæ luteous; abdomen beneath ochraceous to stramineous except tip, segments posterior to origin of ovipositor and ovipositor itself, which are black." (*Mann.*)

Measurements (as sectionally given, *supra*).

Hab. British Bhutan; Munsong; Mungpoo, Darjiling, 2,700 to 4,000 feet.

The characters given as differentiating this species from others of the genus are shortness of the first joint of antennæ, the bright red colour of the apex and inner portion of cuneus, the luteous and erect character of the scutellar horn, together with small size of the clavate head relatively to that of the stalk in both male and female, and the markings on the pronotum of the female.

HELOPELTIS THEIVORA. (Vol. II, p. 440.)

Variation in the sexes of this species has been described by Mr. H. H. Mann (J. and P. A. S. Beng. new ser. ii, no. 5,

1906), from fresh and living specimens, and he remarks:—"The points which settle the sex to a casual observer, are:—

"1. The size of the orange spot on the pronotum and scutellum. In the female it is much bigger than in the male, and in fact in the latter it is often hardly to be seen.

"2. The shape of the abdomen, which is always larger and stouter in the female.

"3. The size of the insect, the female being always distinctly bigger in every respect.

"4. The presence of the ovipositor in the female."

Mr. Mann also states that "the males are always present in much smaller numbers than the females."

When enumerating the species of the genus I placed the *H. febriculosa*, Bergr. as a probable synonym of *H. theivora*, Waterh. (vol. ii, p. 440). Mr. Mann (Mem. Dept. Agr. Ind. Ent. ser. i, no. 4, p. 331, 1907), writes:—"I have shown conclusively that the *H. febriculosa* as described by Bergroth comes well within the variation noticed for *H. theivora*, and that the observations give no indication of the presence of two distinct types under the latter. I should, in fact, be inclined to consider Bergroth's insect as not even a definite variety, but rather as a mere casual and individual variation."

Genus **HYALOPEPLUS**. (Vol. II, p. 447.)

3027. **Hyalopeplus clavatus**, *Dist. A. M. N. H.* (8) iv, p. 509 (1909).

Head, pronotum, scutellum, and corium bronzy ochraceous; head with three longitudinal black lines, the lateral ones converging anteriorly; antennæ with the basal joint bronzy ochraceous, with a more or less distinct piceous line beneath, second joint black, with its base ochraceous (remaining joints mutilated in typical specimens); pronotal collar with the margins and three longitudinal lines black, the central line more prominent, posterior pronotal margin and the posterior angles black; clavus with the inner and outer margins and the suture black; corium with the costal marginal area paler and bordered on each side with black, veins piceous; membrane pale olivaceous, subhyaline, the basal area reflecting the darker abdomen beneath, the cellular margins black; body beneath, rostrum, and legs ochraceous; antennæ with the basal joint moderately thickened and a little longer than head, second joint slightly thickened and nearly four times as long as first; rostrum reaching the posterior coxæ; pronotum with the anterior area subgranulose, the posterior area transversely striate and centrally longitudinally impressed, posterior angles slightly straightly prominent; scutellum with the disk very finely transversely striate.

Length 10 millim.

Hab. Bengal; Lebong, 5000 ft. (*Lefroy*).

Differs from *H. spinosus*, Dist. (vol. ii, p. 447), by the less produced posterior pronotal angles; and from *H. vitripennis*, Stål (vol. ii, p. 447), by the absence of the linear markings, different colour of antennæ, &c.

Genus **PHYTOCORIS**. (Vol. II, p. 448.)

Phytocoris crinitus. (Vol. II, p. 449.)

Originally described from Ceylon we have since received this species from Continental India.

Add: *Hab.* Simla Hills; Phagu, 9000 ft. (*Annandale*). West Bengal; Paresnath (*Annandale*).

One large specimen is 5½ millim. in length.

Genus **EURYCYRTUS** to replace **Paracalocoris**. (Vol. II, p. 449.)

Eurycyrtus, *Reut. Öfv. Finsk. Vet. Soc. Förh.* xxi, p. 34 (1879); *id. Ann. Mus. Petersb.* xii, p. 496 (1908); *id. Acta Soc. Scient. Fenn.* xxxvi, n. 2, p. 38 (1909).
Paracalocoris, *Dist.* (part.) (vol. ii, p. 449).

Reuter has pointed out (*supra*) that his genus *Eurycyrtus* is available for the Oriental and Ethiopian species which I have included in my genus *Paracalocoris* and that the latter should be restricted to the Neotropical species for which I founded it.

Eurycyrtus burmanicus.

Paracalocoris burmanicus, *Dist.* (vol. ii, p. 450).

Eurycyrtus erebus.

Paracalocoris erebus, *Dist.* (vol. ii, p. 450).

Eurycyrtus lanarius.

Paracalocoris lanarius, *Dist.* (vol. ii, p. 450).

In the Ceylonese type the legs are practically pale ochraceous, which is evidently a varietal colour, for in specimens since received from the Indian peninsula, those from Bombay agree with the type, while others from Calcutta have the apical areas of the femora more or less infuscate, and in the posterior femora distinctly palely annulate at their apices.

Add: *Hab.* Bombay (*Dixon*); Calcutta (*Ind. Mus.*).

Genus DIOPHANTUS.

(To precede *Calocoris*, Vol. II, p. 451.)

Diophantus, *Dist. A. M. N. H.* (8) iv, p. 510 (1909).

Type, *D. literatus*, Dist.
Distribution. Ceylon.

Head somewhat large, longer than broad, the lateral margins slightly sinuate, centrally slightly longitudinally ridged; eyes large, a little obliquely directed backward; antennæ with the first joint scarcely as long as head, second about three times as long as first, first and second longly pilose, third and fourth slender, third about half the length of second and distinctly longer than fourth; rostrum reaching the posterior coxæ; pronotum nearly twice as broad at base as long, the basal margin convex and about two and a half times as broad as anterior margin, transversely impressed near anterior margin, and behind this impression two transverse callosities, lateral margins oblique; scutellum triangular; corium

Fig. 136.—*Diophantus literatus.*

(including cuneus) a little longer than posterior tibiæ, the costal margin slightly convex; cuneus broad, elongately triangular, the basal margin towards inner apex obliquely deflected to membrane; membrane passing abdominal apex, with a short subquadrate posteriorly subtruncate cell, to which is attached a smaller inner cell; legs of moderate size and length; posterior tarsi with the first and second joints subequal in length; body and legs thickly, more or less longly pilose.

In this Indian enumeration I place the genus near *Eurycyrtus* and *Calocoris*.

3028. **Diophantus literatus**, *Dist. A. M. N. H.* (8) iv, p. 510 (1909).

Body above brownish ochraceous, thickly, somewhat longly pilose; cuneus castaneous, its basal margin ochraceous; head with a central longitudinal line and the eyes black; antennæ ochraceous, apex of second joint and the third and fourth joints piceous; pronotum with the extreme basal margin paler and with a small black spot at each posterior lateral angle; scutellum and the interior area of corium distinctly darker in hue; membrane fuscous, beyond middle mottled with greyish, the basal area reflecting the dark abdomen beneath; body beneath and legs pale ochraceous, mesosternum laterally piceous, legs annulated with fuscous; pronotum finely transversely wrinkled and punctate; scutellum punctate; other structural characters as in generic diagnosis.

Length $5\frac{1}{2}$ millim.

Hab. Ceylon; Ohiya (*Green*).

Genus CALOCORIS. (Vol. II, p. 451.)

3029. **Calocoris rama**, *Dist. A. M. N. H.* (8) iv, p. 511 (1909).

Above bright, shining, pale olivaceous-green; body beneath and legs paler; antennæ black, the basal joint olivaceous-green; eyes black; membrane fuscous, with a grey spot near apex of cuneus, a little darker on basal area; rostrum ochraceous, its apex black and reaching the intermediate coxæ; antennæ with the basal joint about as long as head, second joint about three times as long as first and obscurely palely annulate near base; head rather elongate anteriorly; pronotum with two small transverse callosities near anterior margin, which is ridged; corium with the costal marginal area a little paler in hue and with cuneus a little longer than posterior tibiæ; tibiæ setose; tarsi apically black.

Length $5\frac{1}{2}$ millim.

Hab. Darjiling.

Genus MEVIUS. (Vol. II, p. 453.)

Peritropis, *Popp.* (part.) (*nec Uhler*), *Acta Soc. Scient. Fenn.* xxxvii, n. 4, p. 24 (1910).

Poppius first places my Eastern genus *Mevius* as a synonym of Uhler's North American genus *Peritropis* and then uses it as a distinct subgenus under which he describes species from New Guinea and Singapore.

Genus LYGUS. (Vol. II., p. 454.)

3030. **Lygus ostensus**, *Dist. A. M. N. H.* (8) iv, p. 511 (1909).

Head and pronotum ochraceous; antennæ and eyes black; scutellum black; clavus and inner area of corium black, base of clavus and costal and lateral areas of corium ochraceous; cuneus castaneous; membrane pale fuscous, subhyaline, the base blackish by reflecting the dark abdomen beneath; head beneath, sternum, and legs ochraceous; abdomen beneath black, with the basal angles ochraceous; femora obscurely annulated with brownish; antennæ with the basal joint about as long as head, second joint about twice as long as first; pronotum with two transverse concolorous callosities behind anterior margin; hemelytra very obscurely shortly pilose; membrane longly passing abdominal apex; apices of tarsi black.

Length $3\frac{1}{2}$–4 millim.

Hab. Calcutta (*Ind. Mus.*); Chapra (*Mackenzie*); Pusa (*H. L. D.*); Monghyr (*Jenkins*); Kurseong (*Paiva*); United Provinces; Allahabad.

Allied to *L. pubens*, Dist.

3031. **Lygus patrius**, *Dist. A. M. N. H.* (8) iv, p. 512 (1909).

Head, pronotum, scutellum, and corium ochraceous; eyes, apex of clavus, two transverse spots to corium (one before, the other behind middle), and a basal spot and extreme apex to cuneus black or blackish; membrane pale fuscous, subhyaline, the basal area blackish by reflecting the dark abdomen beneath; body beneath and legs ochraceous; intermediate and posterior coxæ and bases of femora and abdomen (excluding apex) black; femora obscurely testaceously annulate, tibiæ obscurely fuscously annulate; antennæ ochraceous, the base and nearly the apical half of second joint black, third and fourth joints very pale fuscous, first joint about as long as head, second about twice as long as first; membrane longly passing the abdominal apex.

Length 4 millim.

Hab. East Himalayas; Kurseong.

3032. **Lygus annandalei**, *Dist. A. M. N. H.* (8) iv, p. 512 (1909).

Head reddish ochraceous, the eyes fuscous brown; antennæ with the first and second joints ochraceous, apical third of second joint black, third and fourth joints pale fuscous; pronotum pale ochraceous, slightly tinged with virescent, the basal area blackish with the exception of the extreme basal margin; scutellum and clavus black; corium very pale ochraceous, subhyaline, the costal membrane a little darker, a transverse dark castaneous spot at inner posterior angle;

cuneus with the lateral and posterior margins and a small spot near its inner base dark castaneous; membrane hyaline, transversely trifasciately mottled with pale fuscous; body beneath and legs pale ochraceous, pro- and mesonota with a sublateral black fascia, abdominal apex castaneous, centrally black; antennæ with the basal joint slightly shorter than head, second joint more than twice as long as first, third little more than half as long as second, but much longer than fourth; pronotum with two transverse callosities near anterior margin; corium shortly obscurely pilose; membrane longly passing the abdominal apex; apices of the tarsi black.

Length 3½ millim.

Hab. L. Bengal; Sonarpur.

3033. **Lygus costatus**, *Dist. A. M. N. H.* (8) iv, p. 512 (1909).

Head ochraceous, the apex and eyes black; antennæ with the first and second joints ochraceous, apical area of the second black, third and fourth joints pale piceous; pronotum ochraceous, the disk frequently discoloured; scutellum ochraceous; corium ochraceous, its disk paler and obscurely greyish; inner claval margin (broadly), margins of claval suture, costal margin, and a spot at base and apex of cuneus black; membrane brownish-ochraceous, with darker mottlings, the basal area darker by the reflection of the abdomen beneath; body beneath and legs ochraceous, disk of mesonotum and a spot at base of abdomen black; basal joint of antennæ about as long or very slightly shorter than head, second joint a little more than twice as long as first; pronotum with two transverse callosities behind the anterior margin; scutellum moderately tumid; corium obscurely, thickly, shortly pilose; membrane considerably passing the abdominal apex; tibial spinules and apices of the tarsi black.

Var.—The black inner margin to clavus occupying the greater part of its area and the costal black margin considerably widened towards apex.

Length 5 millim.

Hab. Nepal; Chonebal, Katmandu (*Ind. Mus.*).

LYGUS DECOLORATUS. (Vol. II, p. 455.)

Add: *Hab.* E. Himalayas; Kurseong, 5000 ft. (*Annandale*); Bhim Tal, 4500 ft., Kumaon. Nepal; Nagorkote, Katmandu. Calcutta.

3034. **Lygus gemellus**, *Dist. A. M. N. H.* (8) iv, p. 513 (1909).

Ochraceous, possibly virescent in living or fresh specimens; eyes black; antennæ greenish ochraceous, apex of the second and the whole of the third and fourth joints pale fuscous; cuneus with

the apical area a little paler and the apical angle black; membrane subhyaline, mottled with pale brownish; femora obscurely annulated with pale brownish near apices; antennæ with the basal joint scarcely as long as head, second joint more than twice as long as first, third considerably shorter than second and longer than fourth; pronotum very finely wrinkled and with two small obscure transverse callosities near anterior margin; scutellum moderately tumid; corium and clavus distinctly finely pilose, corium appearing paler on marginal areas where the abdomen is not reflected beneath; membrane longly passing the abdominal apex; rostrum with the apex black and very shortly passing the posterior coxæ; apices of the tarsi black.

Length 5 millim.

Hab. Kumaon; Bhim Tal (*Annandale*); Darjiling; Pussumbing, 4700 ft. (*Mann*). Bombay; Bassein Fort.

Allied to *L. viridanus*, Motsch. (vol. ii, p. 456).

In some specimens the apical angle of the cuneus is concolorous, not black.

LYGUS BENGALICUS, *Reut.* (Vol. II, p. 457.)

Var. Basal joint of antennæ entirely sanguineous.

Add: *Hab.* Burma; Mandalay (*Annandale*).

3035. **Lygus valerius,** *Dist. A. M. N. H.* (8) iv, p. 514 (1909).

Head reddish ochraceous, its apex and the eyes black; antennæ with the first and second joints black, third and fourth pale brownish, base of third ochraceous; pronotum ochraceous, the

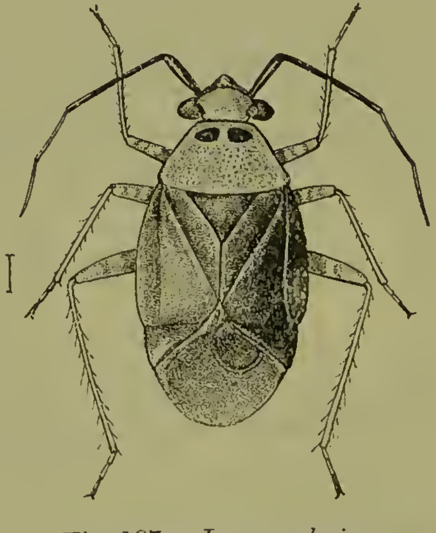

Fig. 137.—*Lygus valerius.*

anterior and lateral margins pale reddish ochraceous, behind the anterior margin two transverse black callose spots; scutellum, corium, and cuneus black; membrane pale fuscous, subhyaline,

basal area darker, reflecting the dark abdomen beneath; body beneath black, lateral areas of the sternum reddish-ochraceous; legs ochraceous, the basal areas and annulations to the apical areas of the femora piceous or black; antennæ with the basal joint about as long as head, second joint about twice as long as first; eyes prominent and projecting beyond the anterior margin of the pronotum; scutellum foveately impressed at base; hemelytra obscurely, shortly, palely pilose; apices of the tarsi black.

Length 3 to $3\frac{1}{2}$ millim.

Hab. Kumaon; Bhim Tal, 4500 ft. (*Annandale*).

Allied to *L. catullus*, Dist.

3036. **Lygus devinctus**, *Dist. A. M. N. H.* (8) iv, p. 514 (1909).

Head ochraceous or pale castaneous, with the apex and the eyes black; antennæ with the basal joint ochraceous or pale castaneous, second joint black, third and fourth fuscous, base of third ochraceous; pronotum pale ochraceous, with two transverse black callose spots behind the anterior margin; scutellum black; corium ochraceous, clavus with an inner black fascia, widened posteriorly, but not occupying the apical angle, corium with a large transverse black spot beyond middle; cuneus black, its basal margin ochraceous; membrane pale fuscous, subhyaline, its basal area blackish by reflecting the dark abdomen beneath; body beneath black; prosternum, rostrum, and legs ochraceous, femora obscurely annulated with brownish, their bases black or piceous, apices of the tibiæ and tarsi narrowly black, in some specimens the anterior tibiæ are centrally obscurely darkly annulate; antennæ with the basal joint as long as head, second joint about twice as long as first; cuneal fracture profound; membrane longly passing the abdominal apex.

Length 4 millim.

Hab. Nepal; Soondrijal (*Ind. Mus.*).

Genus **THERMUS**.

(To follow *Lygus*, Vol. II, p. 454.)

Thermus, *Dist. A. M. N. H.* (8) iv, p. 514 (1909).

Type, *T. adumbratus*, Dist.

Distribution. Ceylon.

Head a little broader than long, the anterior margin longly pilose; eyes transverse, passing the anterior margin of the pronotum; antennæ with the basal joint slightly thickened, a little longer than head, somewhat longly pilose, second joint four times as long as first, third almost half as long as second and nearly twice as long as fourth; pronotum about twice as broad as long, coarsely punctate, anteriorly declivous, the lateral margins a little roundly oblique; mesonotum exposed; scutellum subtriangular; corium with cuneus about as long as the second joint of the

antennæ; cuneus elongately angulate: membrane longly passing the abdominal apex, with two short, posteriorly truncate cells, the outermost smaller; posterior femora very strongly thickened, shorter than the tibiæ, attenuated towards apices; tibiæ spinulose; rostrum reaching the posterior coxæ, with the first joint shorter than the second.

3037. **Thermus adumbratus,** *Dist. A. M. N. H.* (8) iv, p. 515 (1909).

Head dull ochraceous, with three transverse fasciæ (one basal, one central, and the other apical) and a central longitudinal fascia sanguineous; antennæ ochraceous; pronotum dull ochraceous, a sublateral fascia on each side, a transverse fascia before middle, and a central longitudinal fascia (not reaching base) sanguineous; scutellum dull ochraceous, the lateral margins sanguineous; corium dull ochraceous, with the margins sanguineous, the inner and outer margins preceded by small greyish spots, the apical margin

Fig. 138.—*Thermus adumbratus.*

broader, costal margin (excluding apex) pale ochraceous; clavus greyish, thickly spotted with brownish; cuneus pale ochraceous, the outer margin and apex sanguineous and with a small fuscous spot near base; membrane pale fuscous, the margins of the cells sanguineous; body beneath and legs pale ochraceous, lateral areas of the sternum and abdomen moderately infuscate; posterior femora with their apical halves more or less sanguineous; structural characters as in generic diagnosis.

Length 4 millim.

Hab. Ceylon; Maskeliya (*G. B. de Mowbray*).

Genus SAPINNIUS.

Sapinnius, *Dist. A. M. N. H.* (8) iv, p. 515 (1909).

Type, *S. fidelis*, Dist.
Distribution. Ceylon.

Head somewhat small, perpendicularly deflected, subtriangular, the lateral margins rounded; eyes broad, narrow, transverse, projecting beyond the anterior margins of the pronotum; antennæ with the basal joint moderately thickened, longer than head, second joint more than three times longer than first, third about half as long as second and considerably longer than fourth; rostrum reaching the posterior coxæ; pronotum strongly declivous anteriorly, about twice as broad at base as long, the lateral margins oblique, the posterior margin somewhat convex, the posterior lateral angles subprominent; scutellum triangular, the basal angles a little callose; clavus, corium, and cuneus thickly pilose, corium (excluding cuneus) about as long as second joint of antennæ; cuneus elongately subtriangular; membrane longly passing the abdominal apex and with a basal, slightly curved, posteriorly truncate cell; legs moderate, posterior femora not prominently thickened, posterior tarsi with the basal joint longest.

3038. **Sapinnius fidelis**, *Dist. A. M. N. H.* (8) iv, p. 516 (1909).

Head ochraceous, longitudinally pale sanguineous before each eye;

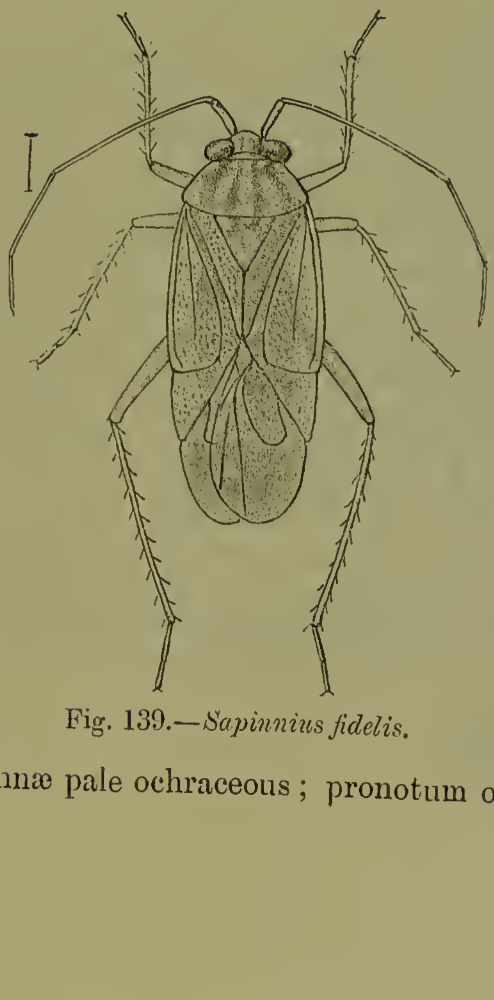

Fig. 139.—*Sapinnius fidelis.*

eyes black; antennæ pale ochraceous; pronotum ochraceous, with

s 2

four longitudinal, slightly curved, pale sanguineous fasciæ; scutellum ochraceous, with basal pale sanguineous markings; corium and clavus pale brownish-ochraceous, the corium with the lateral areas irregularly pale ochraceous, cuneus with nearly the inner half pale brownish, the remaining area pale ochraceous; membrane hyaline, at base reflecting the dark abdomen beneath; body beneath pale sanguineous; legs pale ochraceous, posterior femora tinted with pale sanguineous; structural characters as in generic diagnosis.

Length 5 millim.

Hab. Ceylon; Madulsima (*Bainbrigge-Fletcher*, *Brit. Mus.*).

Genus **PŒCILOSCYTUS**. (Vol. II, p. 458.)

PŒCILOSCYTUS LONGICORNIS. (Vol. II, p. 458, fig. 294.)

In most of the specimens from continental India which I have examined since previously enumerating this species, the central dark annulation to the posterior tibiæ is absent.

Genus **CAMPTOBROCHIS**. (Vol. II, p. 460.)

3039. **Camptobrochis exornatus**, *Dist. A. M. N. H.* (8) iv, p. 516 (1909).

Head pale greenish-ochraceous; eyes and first and second joints of antennæ black (third and fourth joints of antennæ mutilated in typical specimen); pronotum pale greenish-ochraceous, two small spots behind the anterior callosities, a larger spot at each posterior angle, and two subbasal transverse linear streaks black; corium pale greenish-ochraceous, an obscure macular patch on clavus, two small longitudinal linear, and a transverse linear spot at apex of corium, black; cuneus very pale greenish-ochraceous, the inner and outer lateral margins and apical point black; membrane pale fuscous hyaline, with darker mottlings and the basal area black by reflecting the dark abdomen beneath; body beneath and legs pale greenish-ochraceous, femora with two black linear annulations near apex; rostrum with the apex black and reaching the intermediate coxæ; apices of the tarsi black; antennæ with the basal joint almost as long as head, second joint about twice as long as first; pronotum (excepting the anterior transverse callosity) somewhat coarsely punctate; clavus coarsely, corium less coarsely punctate, costal margin impunctate; membrane longly passing the abdominal apex.

Length 6 millim.

Hab. Mussoorie.

3040. **Camptobrochis signatus,** *Dist. A. M. N. H.* (7) xiii, p. 274 (1904).

Ochraceous; apex of second joint of antennæ, eyes, a broad central longitudinal fascia to scutellum (sometimes subobsolete), and a broad fascia at incisural margins of clavus, black; first, third, and fourth joints of antennæ, inner apical area of corium, apical margin to cuneus, central and subapical annulations to posterior femora, apices of tarsi, lateral areas of sternum (sometimes obsolete) and lateral and central areas of abdomen, fuscous; membrane pale brownish ochraceous, hyaline, margins of cells fuscous; first joint of antennæ very slightly thickened and almost as long as head, second joint subequal in length to posterior tibiæ; pronotum somewhat coarsely punctate, the anterior transverse callosity impunctate; clavus and corium more finely punctate, the costal areas of corium impunctate.

Length $4\frac{1}{3}$ millim.

Hab. Calcutta. Ceylon; Peradeniya and Maskeliya (*Green*).—North Queensland; Townsville (*Dodd, Brit. Mus.*).

This is evidently a very widely distributed species; I originally described it from Queensland.

3041. **Camptobrochis qualis,** *Dist. A. M. N. H.* (8) iv, p. 517 (1909).

Head and pronotum ochraceous, head suffused with sanguineous; eyes black; antennæ with the first and second joints ochraceous, extreme apex of second and the whole of third and fourth joints piceous; pronotum with two transverse callosities near anterior margin and a subbasal linear margin sanguineous; rostrum ochraceous; corium ochraceous, the clavus and apical area of corium sanguineous; cuneus sanguineous, its basal margin pale ochraceous; membrane hyaline, the cellular margins a little darker; body beneath, rostrum, and legs ochraceous; mesosternum and apical areas of femora (more or less) sanguineous; abdomen with a sublateral series of small black spots, in a second specimen these are only faintly visible; antennæ with the first joint a little shorter than head, second nearly twice as long as first; pronotum coarsely punctate and slightly wrinkled, anteriorly deflected; clavus thickly punctate, corium punctate, the outer area almost impunctate; membrane longly passing the abdominal apex; rostrum with its apex black and just passing the intermediate coxæ.

Length $4\frac{1}{2}$ millim.

Hab. Simla Hills; Theog, 8000 ft. (*Annandale*).

Genus PACORUS.

Pacorus, *Dist. A. M. N. H.* (8) iv, p. 517 (1909).

Type, *P. politus*, Dist.
Distribution. North India.

Allied to *Camptobrochis*, but with the first joint of the antennæ considerably longer than the head, second joint about twice as long as first and distinctly setose; pronotum twice as broad at base as long and three times as broad as anterior margin; scutellum broad, the basal margin much longer than the lateral margins; corium very broad, excluding cuneus about as long as posterior tibiæ; cuneus with its posterior margin nearly twice as long as its lateral margin; posterior tarsi with the first and second joints subequal in length.

3042. **Pacorus politus**, *Dist. A. M. N. H.* (8) iv, p. 517 (1909).

Head and pronotum ochraceous, the latter somewhat discoloured on disk and with its posterior margin distinctly paler; eyes piceous; antennæ with the first joint black, the second ochraceous with its apex black (remaining joints mutilated in typical specimen); scutellum stramineous, with a broad, central, longitudinal

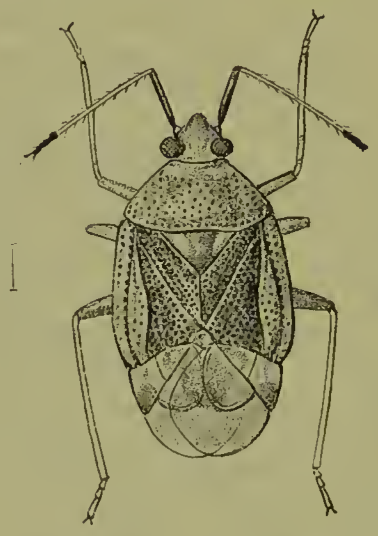

Fig. 140.—*Pacorus politus.*

black fascia; corium black, base of costal margin dull ochraceous; cuneus pale stramineous, its inner angular area and apex piceous; membrane hyaline, slightly fuliginous, cellular margins and basal area (reflecting the dark abdomen beneath) blackish; sternum and abdomen beneath black; head beneath, rostrum, anterior and lateral margins of prosternum, and the legs ochraceous; posterior femora black, tibiæ biannulated with fuscous near base; head

longer than broad; basal joint of antennæ considerably longer than head, second joint about twice as long as first and finely setose; pronotum coarsely punctate, with a transverse anterior callosity; clavus and corium thickly finely punctate; rostrum reaching the posterior coxæ.

Length 5 millim.

Hab. Kurseong.

Genus **LIOCORIDEA** to replace **Gismunda** (Vol. II, p. 463).

Liocoridia, *Reut. Öfv. Finska Vet.-Soc. Förh.* xlv, no. 16, p. 13 (1903).
Liocoridea, *Reut. Ann. Mus. Pétersb.* x, p. 51 (1906).

I gladly accede to Reuter's claim for priority. Though the paper in which his genus was described is attributed to 1903, it was only reported in the 'Zoological Record' as published in 1904, the year in which I described *Gismunda,* and I had not seen it at the time I described the genus and species.

Liocoridea mutabilis, *Reut. Öfv. Finska Vet.-Soc. Förh.* xlv, no. 16, p. 14, pl. ii, f. 4 (1903).
Gismunda chelonia, *Dist.* vol. ii, p. 463, fig. 297 (1904).

Add: *Hab.* Thibet; Mou-Pin (*David, Mus. Paris*).

The remarks as to date of publication of the genus (*supra*) apply also to the species involved.

3043. **Liocoridea modesta,** *Dist.* (Gismunda) *A. M. N. H.* (8) iv, p. 518 (1909).

Brownish ochraceous; antennæ with the basal joint brownish-ochraceous, second joint ochraceous, with its apical half black and moderately thickened, third joint brownish, its base ochraceous; head strongly deflected in front of eyes; antennæ with the first joint about as long as head, second a little more than twice as long as first, its apical half distinctly incrassate and pilose; rostrum reaching the posterior coxæ *; pronotum short, transverse, strongly deflected, moderately coarsely punctate; scutellum slightly tumid; corium shortly but not prominently pilose, and thickly, finely punctate on about interior half; clavus thickly, coarsely punctate; cuneus broader than long, its apex subacute; membrane pale fuliginous, with darker mottlings, the cellular areas

* In the description of *Gismunda* for "rostrum about reaching the *intermediate* coxæ" read "*posterior* coxæ."

pale fuscous, longly passing the abdominal apex: tibiæ finely spinulose.

Length 5 millim.

Hab. Darjiling, 6000 ft.

To be separated from *L. mutabilis* by its unicolorous hue, much less pilose corium, less tumid scutellum, &c.

Division *PILOPHORARIA.*

Pilophoraria, *Reut. Hem. Gymn. Europ.* iii, p. 566 (1883).

Genus **ZARATUS.**

Zaratus, *Dist. Entomologist,* 1909, p. 59.

Type, *Z. repandus*, Dist.

Distribution. Nilgiri Hills.

Head subtriangular, obliquely deflected in front of eyes, obscurely centrally longitudinally sulcate on disk; eyes of moderate size but a little projecting beyond the anterior margin of the pronotum; antennæ with the first joint nearly as long as head, second joint more than twice as long as first, third longer than first, fourth mutilated; rostrum not quite reaching the intermediate coxæ, first joint about reaching base of head; pronotum elongate, but a little broader at base than long, transversely constricted a little before anterior margin, posteriorly convexly tumid, anterior and posterior margins truncate, the lateral margins narrowing to apex, angularly sinuate at the transverse constriction, thence straight to anterior margin; scutellum small, subtriangular; clavus long, almost reaching to base of cuneus; corium with the lateral margins strongly concavely sinuate, broadly widened at the cuneal area; membrane slightly passing the abdominal apex; abdomen broad, globose, constricted at base; legs of moderate length, the posterior tibiæ moderately curved and thickened (the posterior tarsi mutilated).

3044. **Zaratus repandus,** *Dist. Entomologist,* 1909, p. 59.

Head, pronotum, and scutellum pale cinnamon-brown; scutellum with an obscure pale concave line and a small basal spot; corium pale cinnamon-brown, an oblique basal spot on each side, which are almost connected with a transverse spot beyond apex of scutellum, and a transverse concave fascia on each side before cuneus whitish, the cuneal suture more obscurely whitish; membrane black, with an obscure pale transverse fascia near base; legs pale

cinnamon-brown; apices of femora and about apical thirds of tibiæ and the tarsi pale stramineous, apices of tarsi black (posterior tarsi mutilated); antennæ pale ochraceous, third joint,

Fig. 141.—*Zaratus repandus.*

excluding base, black; body beneath imperfectly seen in carded specimens.

Length 4 millim.

Hab. Nilgiri Hills; Barwood Estate (*H. Leslie Andrewes*).

Genus THAUMATURGUS.

Thaumaturgus, *Dist. A. M. N. H.* (8) iv, p. 518 (1909).

Type, *T. typicus*, Dist.

Distribution. India and Ceylon.

Head strongly, almost perpendicularly deflected, subtriangular, the lateral margins a little sinuate, the apex obtusely angulate; eyes moderately projecting beyond and slightly behind the anterior margins of the pronotum; antennæ with the first joint considerably shorter than head, second joint about three times as long as first, its apical area distinctly thickened, third and fourth joints subequal in length and together shorter than second; rostrum not quite reaching the intermediate coxæ; pronotum subquadrate, broader than long, the lateral margins moderately oblique, the anterior margin about one-fourth narrower than the posterior margin; scutellum subtriangular, centrally, longitudinally, irregularly gibbous; corium thickly, shortly pilose, with cuneus a little longer than the posterior tibiæ, the lateral margins concavely sinuate, distinctly broadened at apex; cuneus short and broad; membrane passing the abdominal apex; legs somewhat long and slender, the femora moderately thickened, the posterior tibiæ straight.

Allied to *Pilophorus*, Hahn.

3045. **Thaumaturgus typicus**, *Dist. A. M. N. H.* (8) iv, p. 519 (1909).

Black; third joint of antennæ with the basal half pale stramineous; clavus and the corium (excluding apical area) thickly, finely, palely pilose, a short, white, oblique, transverse line near middle of costal area and a continuous, curved, transverse, white line crossing corium and apex of clavus before the apical area of

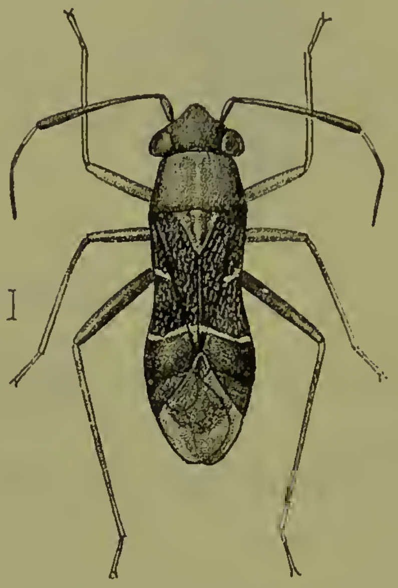

Fig. 142.—*Thaumaturgus typicus.*

corium; membrane fuliginous, the basal area darker by reflecting the abdomen beneath; body beneath black; femora castaneous, tibiæ fuscous, apex of anterior tibiæ, apical half of intermediate tibiæ, and base and apex of posterior tibiæ pale ochraceous; tarsi pale ochraceous, their apices black; structural characters as in generic diagnosis.

Length 3 millim.

Hab. Calcutta (*Ind. Mus.*). Madhupur (*Paiva*). Ceylon; Peradeniya (*Green*).

On chrysanthemum (*C. A. Paiva*).

Genus SILANUS.

(Near *Tyraquellus*, Vol. II, p. 471.)

Silanus, *Dist. A. M. N. H.* (8) iv, p. 519 (1909).

Type, *S. præfectus*, Dist.

Distribution. Ceylon.

Head much longer than broad, anteriorly obtusely angularly produced before bases of antennæ; eyes adpressed, their posterior

margins not quite reaching base of head; antennæ with the first joint (excluding base) a little thickened, shorter than head, second about twice as long as first, third and fourth joints short, together about as long as first; rostrum reaching the posterior coxæ; pronotum broader than long, the anterior margin scarcely half as broad as the posterior margin, which is truncately sinuate, exposing the mesonotum, the anterior margin carinate, transversely impressed before middle, the lateral margins concavely sinuate; scutellum triangular, moderately tumid; corium (including cuneus) as long as posterior tibiæ, cuneus small, broader than long; membrane passing the abdominal apex and with a basal, posteriorly truncate cell; legs somewhat long, posterior femora a little curved at base, all the femora distinctly but moderately thickened; posterior tarsi with the first joint shorter than the second.

In this enumeration of the Capsidæ of British India the genus is placed near *Tyraquellus*, Dist.

3046. **Silanus præfectus**, *Dist. A. M. N. H.* (8) iv, p. 520 (1909).

Head, antennæ, thorax, and scutellum black; corium brownish ochraceous, a small marginal spot at base and a larger marginal spot before cuneus ochraceous; clavus darker and more fuscous in

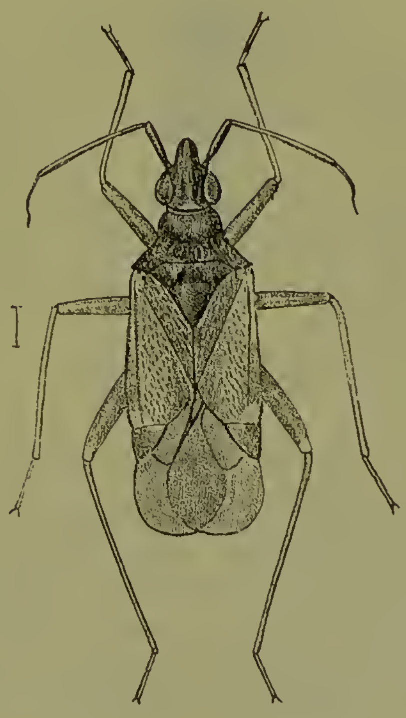

Fig. 143.—*Silanus præfectus.*

hue; cuneus brownish ochraceous, outwardly castaneous; membrane fuliginous; head beneath and sternum black; abdomen beneath piceous; femora black, apices of posterior femora

ochraceous; rostrum, tibiæ, and tarsi brownish ochraceous, apex of rostrum black; head granulose, with a pale, central, longitudinal spot at base; pronotum punctate and shortly, palely pilose; clavus and corium thickly, palely pilose; other structural characters as in generic diagnosis.

Length 4 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus **NICOSTRATUS**. (Vol. II, p. 475.)

3047. **Nicostratus princeps**, *Dist. Entomologist*, 1909, p. 60.

Brownish ochraceous; a transverse white fascia crossing corium and clavus at apex of scutellum; membrane piceous; head very large and globose, almost circular, about as long as broad, with a transverse rounded incised line between the eyes; antennæ pale ochraceous, apices of second and third joints, and the apical joint excluding base, black, second joint subequal in length to third and fourth together; pronotum strongly transversely constricted before middle, the anterior area or lobe narrow and

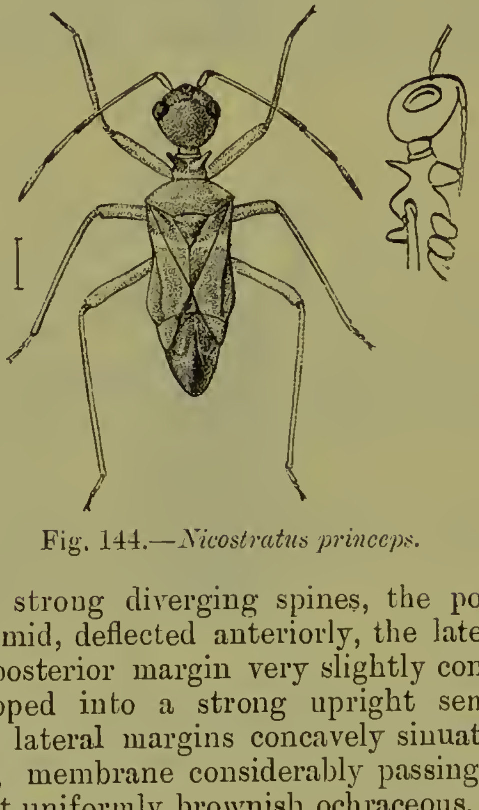

Fig. 144.—*Nicostratus princeps*.

armed with two strong diverging spines, the posterior area or lobe globosely tumid, deflected anteriorly, the lateral angles subprominent, the posterior margin very slightly concavely sinuate; scutellum developed into a strong upright semi-acute spine; corium with the lateral margins concavely sinuate, widened and tumid at apices; membrane considerably passing the abdominal apex; legs almost uniformly brownish ochraceous.

Length, 5 millim.

Hab. Nilgiri Hills; Barwood Estate (*H. Leslie Andrewes*).

Strongly differing from *N. balteatus*, Dist., by the much larger and more strongly developed head, different colour, more acute spine to scutellum, &c.

3048. **Nicostratus diversus**, *Dist. A. M. N. H.* (8) iv, p. 520 (1909).

Head and pronotum fuscous brown, eyes black; antennæ black, basal joint brownish ochraceous, bases of third and fourth joints stramineous; scutellum piceous, with the lateral margins stramineous; corium black, clavus and corium crossed by a transverse white fascia near apex of scutellum; cuneus black, membrane dark piceous; head beneath, sternum and legs brownish ochraceous, intermediate and posterior coxæ and bases of femora whitish, apices of tibiæ and the tarsi pale ochraceous, apices of tarsi black; abdomen beneath black, with the base and a central longitudinal line ochraceous; antennæ somewhat stout, basal joint shorter than head, second about three times as long as first, third longer than fourth, third and fourth together almost as long as second; rostrum passing the anterior coxæ; pronotum globosely tumid, deflected anteriorly, where it is strongly constricted and behind a narrow anterior collar armed with two strong divergent spines; scutellum developed in a strong robust upright tuberculous spine; cuneus posteriorly deflected; membrane considerably passing the abdominal apex.

Length 4 millim.

Hab. Orissa.

Genus **ABIBALUS**.

Abibalus, *Dist. A. M. N. H.* (8) iv, p. 521 (1909).

Type, *A. regulus*, Dist.

Distribution. North India.

Head longer than broad, globose, anteriorly broadly convex; eyes a little exserted, nearer to anterior margin than to base, behind eyes moderately obliquely attenuated; antennæ with the first joint slightly longer than head, second more than twice as long as first, third joint about two-thirds the length of second and a third longer than fourth; rostrum reaching the posterior coxæ; pronotum longer than broad, anterior margin about half the breadth of posterior margin, posterior margin concave, exposing the mesonotum, lateral margins concavely oblique; scutellum small, subtriangular; corium including cuneus very slightly longer than posterior tibiæ, excluding cuneus nearly three times longer than broad; cuneus elongate, much longer than broad; membrane large, about as long as corium without the cuneus, a somewhat long cell on basal area; legs finely spinulose, all the tibiæ subequal in length; posterior tarsi with the basal joint longest.

3049. **Abibalus regulus**, *Dist. A. M. N. H.* (8) iv, p. 521 (1909).

Head, pronotum, and scutellum black; anterior margin of pronotum and a lateral fascia on each side of scutellum pale

ochraceous ; corium brownish-ochraceous, a large spot near base, an elongate costal spot before cuneus, and some smaller irregular

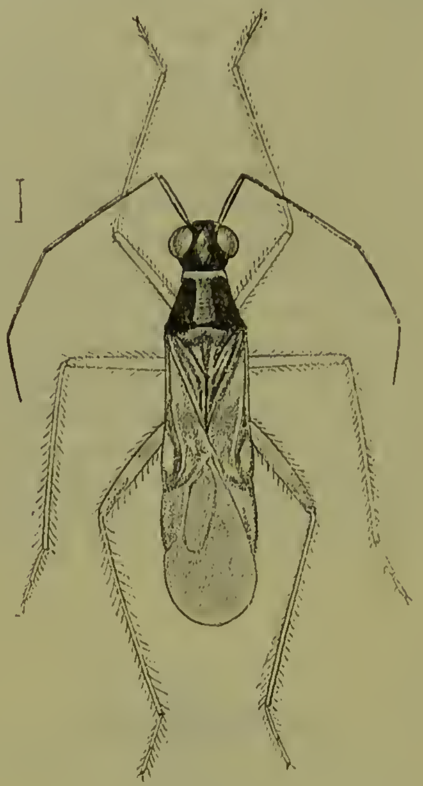

Fig. 145.—*Abibalus regulus.*

spots near membranal margin, greyish-white ; clavus darker, with the margins greyish-white ; membrane pale fuliginous, the cellular margins darker ; body beneath black ; legs and rostrum pale ochraceous ; apical areas of the femora brownish ; structural characters as in generic diagnosis.

Length 4 millim.

Hab. Kurseong.

Genus **ZONODORUS**. (After *Zanchius*, Vol. II, p. 477.)

Zonodorus, *Dist. A. M. N. H.* (8) iv, p. 522 (1909).

Type, *Z. gubernator*, Dist.

Distribution. Ceylon.

Head short, broad, convex, not horizontally produced in front of eyes, which are placed somewhat midway between base and apex and thus longly removed from the anterior margin of the pronotum, between the eyes obscurely longitudinally sulcate ; antennæ with the first joint moderately thickened and about as long as head, second joint about four times as long as first and a little longer than third, fourth scarcely shorter than

third; rostrum about reaching the posterior coxæ; pronotum much broader than long, narrowed to head, the lateral margins oblique, distinctly transversely impressed a little before middle, the posterior margin concave and exposing the base of the mesonotum; scutellum subtriangular, a little convex; corium (excluding cuneus) considerably shorter than posterior tibiæ; membrane longly passing abdominal apex, with an elongate posteriorly truncate cell; legs somewhat long and slender, the posterior femora distinctly thickened, the posterior tibiæ as long as corium and cuneus together, posterior tarsi with the basal joint longest.

In this enumeration of the Indian Capsidæ I place the genus near *Zanchius*, Dist., to which it is closely allied, but separated by the structure of the head.

3050. **Zonodorus gubernator**, *Dist. A. M. N. H.* (8) iv, p. 523 (1909).

Head, antennæ, pro- and mesonota, scutellum, body beneath, rostrum, and legs stramineous or very pale ochraceous; base of first joint of antennæ and the basal areas of the femora greyish-white; clavus, corium, and cuneus greyish-white, subhyaline,

Fig. 146.—*Zonodorus gubernator.*

macularly mottled with pale virescent, the costal area of corium (excluding base) and extreme apex pale ochraceous, the margins of clavus adjoining scutellum also pale ochraceous; membrane very pale brownish-ochraceous, the basal area mottled with pale

virescent and the membranal cells posteriorly margined with the same colour; the upper surface is distinctly, finely, palely pilose; structural characters as in generic diagnosis.

Length 4 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus ANTIPHILUS.

Antiphilus, *Dist. A. M. N. H.* (8) iv, p. 521 (1909).

Type, *A. amicus*, Dist.

Distribution. North India.

Elongate; head about as broad as long, anteriorly deflected; eyes straightly transverse, distinctly removed from base of head; rostrum reaching the posterior coxæ; antennæ pilose, first joint a little longer than head and moderately thickened, second a little more than twice as long as first, third twice as long as fourth, third and fourth together about as long as second; pronotum about twice as broad as long, basal margin twice as broad as

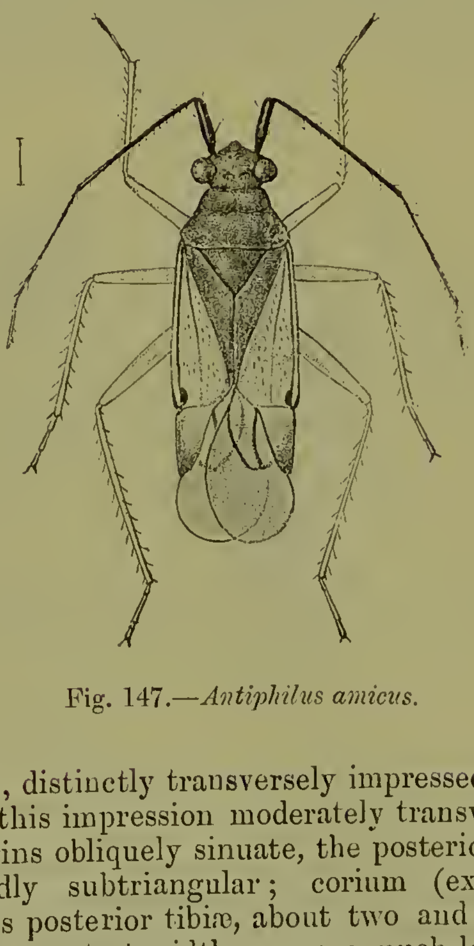

Fig. 147.—*Antiphilus amicus.*

anterior margin, distinctly transversely impressed before middle, and in front of this impression moderately transversely bi-callose, the lateral margins obliquely sinuate, the posterior angles obtuse: scutellum broadly subtriangular; corium (excluding cuneus) almost as long as posterior tibiæ, about two and a half times as long as broad at greatest width; cuneus much longer than broad at base, angularly narrowed at apex; membrane large, its greatest

length equal to that of corium without the cuneus, and with two elongate cellular areas not passing apex of cuneus; legs of moderate length, femora distinctly but not prominently thickened, tibiæ spinulose, posterior tarsi with the basal joint much shorter than the second.

A genus of Cyllocoraria.

3051. **Antiphilus amicus**, *Dist. A. M. N. H.* (8) iv, p. 522 (1909).

Head, antennæ, pronotum, scutellum, and clavus black; corium flavous, shortly, darkly, sparsely pilose and with a small black spot near apical angle, cuneus flavous, apically (broadly) and marginally (narrowly) blackish; membrane pale shining fuliginous with iridescent reflections, the cellular margins black; body beneath black; rostrum and legs pale ochraceous, apices of tarsi (especially anterior tarsi) blackish; structural characters as in generic diagnosis.

Length $4\frac{1}{2}$ to 5 millim.

Hab. Darjiling, 6000 ft. (*Ind. Mus.*); Kurseong, East Himalaya, Ukhral, Manipur (*Ind. Mus.*).

Genus AZIZUS.

Azizus, *Dist. A. M. N. H.* (8) v, p. 10 (1910).

Type, *A. basilicus*, Dist.

Distribution. Bengal.

Head deflected in front of eyes, longer than broad; eyes large and globose, prominently projecting beyond the anterior margins of the pronotum; antennæ somewhat long and robust, first joint stoutest, a little longer than head, slightly curved, second joint nearly three times as long as first, third about two-thirds the length of second and nearly twice as long as fourth; rostrum passing the posterior coxæ; pronotum nearly twice as broad at base as long and nearly three times as broad as anterior margin, the basal margin concave, transversely constricted near anterior margin, the anterior area with a small tubercle on each lateral margin, the lateral margins oblique, the disk strongly deflected anteriorly; scutellum large, broad at base, moderately deflected posteriorly; corium about three times as long as broad, its apical margins subtruncate, the lateral margins nearly straight; cuneus longer than broad; membrane considerably passing abdominal apex, with an elongate, oblong, posteriorly truncate cell before cuneus and a very small cell at base; anterior and intermediate legs of moderate size, the tibiæ spinulose (posterior legs mutilated in typical specimen).

This genus I include in the division Teratodellaria as used in this Indian enumeration.

3052. **Azizus basilicus**, *Dist. A. M. N. H.* (8) v, p. 11 (1910).

Head, pronotum, and scutellum black, very finely and obscurely palely pilose; antennæ with the first and fourth joints castaneous, the second and third joints ochraceous; clavus and corium dull castaneous brown, distinctly, thickly, finely palely pilose, the extreme costal margin of the latter ochraceous; cuneus pale bright

Fig. 148.—*Azizus basilicus.*

castaneous, pilose as on corium; membrane fuscous, with iridescent reflections; body beneath fuscous brown; anterior and intermediate femora castaneous, tibiæ and tarsi pale ochraceous, coxæ and acetabula more or less testaceous (posterior legs mutilated in typical specimen); structural characters as in generic diagnosis.

Length $5\frac{1}{2}$ millim.

Hab. Bengal; Pusa (*Lefroy*).

Mr. Maxwell-Lefroy sent me a single example of this species.

Genus SEREBÆUS.

Serebæus, *Dist. A. M. N. H.* (8) v, p. 11 (1910).

Type, *S. discriminatus*, Dist.

Distribution. Ceylon.

Head globose, longer than broad, apically acuminate, anteriorly deflected; eyes small, moderately adpressed, their posterior

margins reaching base of head; antennæ slender, first joint distinctly thickened and inwardly finely spinulose, second about three times as long as first and subequal in length to third, fourth about half as long as third; rostrum reaching the posterior coxæ; pronotum at base twice as broad as long and nearly three times as broad as anterior margin, posterior margin concave, exposing the mesonotum, lateral margins sinuately oblique, a short distinct anterior collar, behind which it is obscurely transversely impressed; scutellum small, tumid, transversely impressed; corium (including cuneus) as long as posterior tibiæ; cuneus a little longer than broad, the apex subacute; membrane considerably passing the abdominal apex; legs somewhat slender, the femora moderately thickened, the posterior tibiæ spinulose, posterior tarsi with the first joint a little longer than second.

In this Indian enumeration the genus has affinity with *Tyraquellus* (vol. ii, p. 471).

3053. **Serebæus discriminatus**, *Dist. A. M. N. H.* (8) v, p. 12 (1910).

Head, pronotum, and scutellum castaneous brown, eyes dull sanguineous; antennæ pale ochraceous, the basal joint castaneous; corium pale greyish, subhyaline, base of clavus and a transverse

Fig. 149.—*Serebæus discriminatus.*

broad fascia crossing corium and apex of clavus fuscous brown; cuneus bright, pale castaneous; membrane pale fuliginous with iridescent reflections; body beneath sanguineous, legs and rostrum stramineous, spinules to the posterior tibiæ fuscous; first joint of

antennæ longly spinulose interiorly; lateral pronotal margins with a few long hairs; scutellum and corium distinctly palely pilose; structural characters as in generic diagnosis.

Length 4 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus FULVIDIUS.

(To follow *Serebæus*, ante, p. 274.)

Fulvidius, *Popp. Act. Soc. Scient. Fenn.* xxxvii, no. 4, p. 20 (1909).*

Type, *F. punctatus*, Popp.

Distribution. Burma.

"Body rather elongated, on the sides a little rounded, faintly shining, the hemelytra, excepting the membrane, dull; above with very short semi-erect hairs, rather strongly punctured; head broad, broadly pointedly produced, somewhat vertical, seen from the sides with the convex neck-shield evenly arched, about as long as the base with the eyes broad, the "Zügel" narrow, above and beneath sharply margined; eyes large, not extending to the throat; antennæ inserted just before the eyes, first joint with short adpressed hairs, the second clothed with short erect hairs (remaining joints mutilated in type), first joint somewhat produced, very little thickened, extending beyond apex of head, the second half thinner and twice as long; first joint of rostrum indistinctly longer than the head; the front very finely and rather wrinkly punctured; clypeus strongly shining, smooth, the pronotum thickly punctured, the callosities more finely and sparsely, apical structure not developed; the callosities very slightly convex, extending backward rather beyond the middle of the disk, separated from each other by a small longitudinal furrow, the hinder angles rounded, not projecting, basal margin nearly straightly truncated, the sides shallowy sinuous and for the whole length sharply margined; scutellum rather convex, behind base somewhat flatly impressed, thickly punctate; hemelytra in ♀ longer than abdomen, clavus thickly, corium sparsely punctate, cuneus indistinctly defined; membrane with two cells; hind wings with a rudimentary cell-hook; legs with finely adpressed hairs, without spines, tibiæ narrow, first joint of tarsi long." (*Poppius.*)

3054. **Fulvidius punctatus,** *Popp. Act. Soc. Scient. Fenn.* xxxvii, no. 4, p. 20, fig. 6 (1910).

"Blackish-brown, on middle of pronotum a short narrow longitudinal streak and another broader on each side inside the hinder angles, the latter and the side margin, sides of scutellum (very narrowly), the claval suture broadly (base excepted), outer margin of clavus (narrowly), corium with inner basal half backward to the

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* This publication is dated 1909, but it only reached my hands, through the courtesy of Dr. Poppius, in May 1910.

middle interrupted by the inground black spots, two longitudinal dashes on basal outer half, the whole apical margin to the interior base of cuneus and a short longitudinal streak going out from here as well as apical half of cuneus and protopleura beneath, narrowly

Fig. 150.—*Fulvidius punctatus.*

yellow; membrane fuliginous, inside the tip of cuneus pale; antennæ yellowish-brown, second joint at apex rather darker; rostrum and legs brown; apical halves of femora and apices of tibiæ yellow; head about one-third shorter than pronotum with the eyes scarcely narrower than front margin of same; front only a little broader than diameter of eye, in middle very shallowly furrowed; first joint of antennæ about one-fourth shorter than breadth of front with eyes, second joint one-fourth shorter than basal margin of pronotum." (*Poppius.*)

"Length 4·5, lat. 2 millim."

Hab. Burma; Karenni (*Fea*), *fide* Poppius.

I have not seen this species which is stated to be founded on a female specimen. I have reproduced the description and figure of Poppius, between which there appear to be some slight discrepancies.

Genus **THAUMASTOMIRIS**. (Vol. II, p. 473.)

3055. **Thaumastomiris piceatus**, sp. n.

Sanguineous; antennæ, eyes, clavus (excluding base) and inner area of corium (excluding base) piceous or black; membrane fuliginous with the veins darker; head vertically depressed in front of eyes, strongly transversely impressed between the eyes; pronotum with a distinct anterior collar and behind which the transverse callosities are prominent and medially well separated, the posterior disk very finely granulate; corium very finely and indistinctly granulate and obscurely shortly pilose, the costal

margin prominent and reflexed; membrane in some lights with prismatic reflections; tarsi fuscous, the base paler.

Length $4\frac{1}{2}$ to 5 millim.

Hab. Bengal; Ganges Delta, Sorabkatti (*Jenkins*), Khulna distr., Gurhalee and Shela F. S. (*Jenkins*), R. Hooghly, Fultah (*Jenkins, Ind. Mus. & Coll. Dist.*).

Mr. J. T. Jenkins took many of these specimens "at light."

Genus DIOCLERUS.

Dioclerus, *Dist. A. M. N. H.* (8) v, p. 12 (1910).

Type, *D. præfectus*, Dist.

Distribution. Ceylon.

Head strongly deflected anteriorly, viewed from above short and broad; eyes prominent, oblique, considerably extending beyond the anterior margins of the pronotum; antennæ with the first joint a little longer than pronotum, slightly thickened near base, second joint twice as long as first, third a little more than half the length

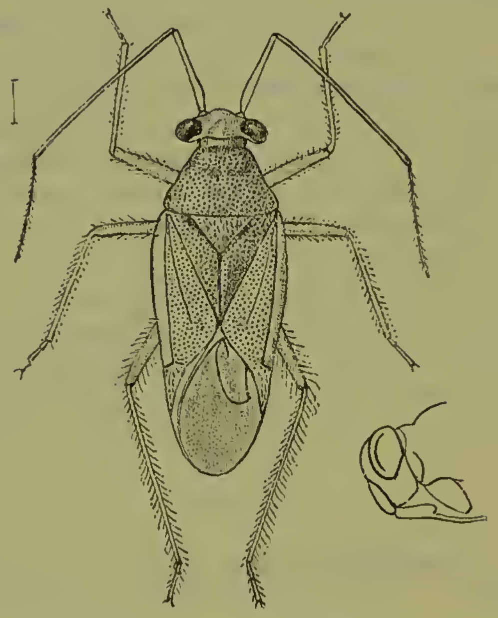

Fig. 151.—*Dioclerus præfectus.*

of second; rostrum reaching the posterior coxæ; pronotum thickly punctate, at base about one-third broader than long, and three times broader than anterior margin, a distinct narrow anterior collar, behind which it is transversely impressed, and on the anterior area centrally longitudinally sulcate, basal and anterior margins truncate, the lateral margins oblique; scutellum small, broadly subtriangular, finely obscurely pilose; corium (including cuneus) subequal in length to posterior tibiæ, excluding costal area

and including clavus distinctly thickly punctate and subpilose, the costal margin moderately convex, narrowing to apex, cuneus slender, longer than broad, pilose; membrane almost as long as corium (excluding cuneus), and with a longitudinal posteriorly curved cell on basal area; legs of moderate length, setose.

In this Indian enumeration the genus may be placed between *Cyrtorrhinus* and *Zanchius* (vol. ii, pp. 476 & 477).

3056. **Dioclerus præfectus**, *Dist. A. M. N. H.* (8) v, p. 13 (1910).

Head, pronotum, scutellum, clavus, and body beneath golden-yellow; corium, cuneus, membrane, and legs pale stramineous; eyes and an apical spot to abdomen black; antennæ fuscous-brown, the basal joint obscure stramineous; apices of femora slightly infuscate, tarsal claws black; corium with a small dark spot on each side of claval apex, the costal area impunctate and thus appearing paler in hue; other characters as in generic diagnosis.

Length 4 millim.

Hab. Ceylon; Peradeniya (*Green*).

Genus **DORTUS**.

(Near *Cyrtorrhinus*, Vol. II, p. 476.)

Dortus, *Dist. A. M. N. H.* (8) v, p. 13 (1910).

Type, *D. primarius*, Dist.

Distribution. Tenasserim.

Head longer than broad between eyes, but very strongly deflected in front of eyes, which are large and prominent and extend beyond the anterior margins of the pronotum; antennæ longly pilose, first joint about as long as head, scarcely thickened, second more than twice as long as first, third and fourth together shorter than second; rostrum passing the intermediate coxæ; pronotum at base much broader but not twice as broad as long, but more than twice broader than anterior margin, a very narrow anterior collar, transversely impressed before anterior margin, and thus enclosing two transverse callosities, with the exception of which the surface is thickly punctate, lateral margins sinuately oblique, lateral posterior margins oblique, truncate before scutellum; scutellum moderately tumid, subtriangular; corium (excluding cuneus) about as long as posterior tibiæ; clavus and corium (excepting costal area) thickly punctate, cuneus nearly as broad at base as long, and longly pilose; membrane considerably passing the abdominal apex, its greatest length equal to that of corium (excluding cuneus); legs of moderate length, strongly setose, femora only moderately thickened, the posterior femora slightly more so.

3057. **Dortus primarius**, *Dist. A. M. N. H.* (8) v, p. 13 (1910).

Head pale brownish ochraceous, centrally longitudinally darker in hue, eyes black; antennæ ochraceous, pilose, apex of the second joint black, third and fourth joints fuliginous, base of third ochraceous; pronotum pale brownish ochraceous, thickly punctate, the lateral margins somewhat broadly piceous, the transverse anterior callosities smooth; scutellum pale brownish ochraceous, with a central longitudinal piceous fascia and faintly transversely

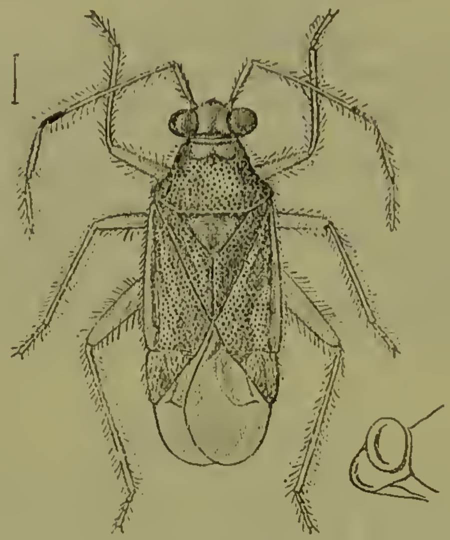

Fig. 152.—*Dortus primarius.*

wrinkled; clavus and pronotum pale brownish ochraceous, thickly, more darkly punctate, the costal area paler and impunctate, cuneous ochraceous, the apical area piceous, somewhat longly pilose; membrane pale fuliginous; body beneath and legs ochraceous, lateral margins of sternum and abdomen and apical area of abdomen broadly piceous; other characters as in generic diagnosis.

Length 5 millim.

Hab. Tenasserim; Myitta (*Doherty*).

Genus GALLOBELICUS. (Vol. II, p. 477.)

GALLOBELICUS CRASSICORNIS. (Vol. II, p. 478.)

Add: *Hab.* Bengal; Pusa (*Lefroy*). Calcutta. Nepal. Ceylon; Peradeniya (*Green*).

Genus ARMACHANUS. (Vol. II, p. 478.)

3058. **Armachanus nilgiriensis**, *Dist. Entomologist*, 1909, p. 60.

Pale brownish ochraceous, a transverse linear white fascia crossing clavus near apex of scutellum, and an oblique similar fascia near middle of corium; before the latter the lateral area is also more or less greyish white; cuneus with a prominent black basal spot; membrane very pale fuliginous; body beneath and legs unicolorous. Somewhat closely allied to *A. monoceros*, Dist., but a more slender and attenuated species, the posterior pronotal area shorter, the anterior area longer, narrower, and moderately narrowed at base, thus bringing the two areas or lobes into more

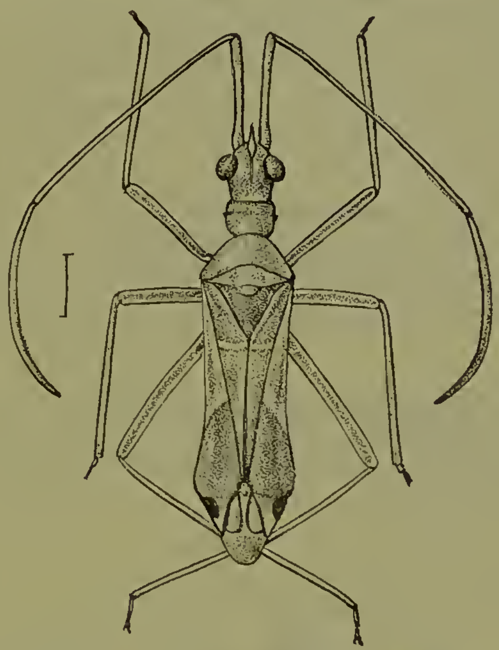

Fig. 153.—*Armachanus nilgiriensis.*

divisional character and into greater contrast; the head is more elongate, and has a median longitudinal darker line; the scutellum, clavus, and central area of corium are not darker in hue as in *A. monoceros*, but concolorous with the general pale brownish ochraceous coloration.

Length 6 millim.

Hab. Nilgiri Hills; Barwood Estate (*H. Leslie Andrewes*).

Genus SOHENUS. (After *Armachanus*, Vol. II, p. 478.)

Sohenus, *Dist. A. M. N. H.* (8) v, p. 14 (1910).

Type, *S. proditus*, Dist.

Distribution. Ceylon.

Head considerably longer than broad, tumid, eyes somewhat small and adpressed and placed about midway between base and

apex, the apical area strongly deflected in front of eyes, the basal area moderately attenuated from eyes to posterior margin; antennæ rather long, first joint shorter than head, second three times as long as first, third almost as long as second and half as long again as fourth; rostrum reaching the intermediate coxæ; pronotum much broader at base than long and more than twice broader than anterior margin, three transverse impressions before anterior margin, the basal area gibbous and deflected to the first transverse impression, and the lateral margins to that impression a little convexley oblique, remaining lateral margins to apex distinctly dislocated at the remaining impressions, posterior margin angularly concave; scutellum about as long as broad at base, strongly deflected posteriorly and transversely impressed near middle, the lateral margins moderately concavely sinuate; corium (including cuneus) as long as head, pronotum, and scutellum together, the costal margin strongly concavely sinuate, apex of clavus almost reaching base of cuneus, which is a little broader than long; membrane about half the length of corium (including cuneus); legs long, posterior tibiæ about as long as hemelytra, posterior tarsi with the first joint a little longest.

Allied to *Armachanus*, Dist. (vol. ii, p. 478), but with the head longer and with no special spinous protuberance, &c.

3059. **Sohenus proditus**, *Dist. A. M. N. H.* (8) v, p. 14 (1910).

Pale cinnamomeous; eyes black; corium with a somewhat

Fig. 154.—*Sohenus proditus.*

oblique white fascia crossing it and greater part of clavus a little

beyond middle, apical inner area of corium somewhat infuscate, membrane fuliginous; antennæ with the first, second, and fourth joints pale fuscous brown, third joint pale ochraceous; scutellum darker and a little more castaneous in hue; head, pronotum, and scutellum very finely obscurely punctate; head beneath, rostrum, sternum, and legs ochraceous; abdomen beneath (excepting base) piceous; other characters as in generic diagnosis.

Length $5\frac{1}{2}$ millim.

Hab. Ceylon; Peradeniya (*Green*).

Division *CAMPTOTYLARIA.*

(To precede the LABOPARIA, Vol. II, p. 479.)

Camptotylaria, *Reut. Het. Gymn. Europ.* iv, p. 7 (1891).

Genus **BADEZORUS.**

Badezorus, *Dist. A. M. N. H.* (8) v, p. 15 (1910).

Type, *B. tyrianus*, Dist..

Distribution. N. India.

Head robust, subtriangular, about as long as broad, centrally moderately arched, obscurely transversely striate; antennæ with the first joint moderately thickened, shorter than head, second joint three times as long as first, third and fourth joints subequal in length and together little more than the length of second; rostrum not quite reaching the intermediate coxæ; pronotum at base about twice as long as broad and less than twice as broad as anterior margin, moderately deflected anteriorly, the lateral margins oblique, the posterior angles obtusely rounded; scutellum broad, subtriangular; corium (including cuneus) as long as posterior tibiæ, cuneus broad, at base considerably broader than long; membrane passing abdominal apex, its greatest length almost equalling that of corium (excluding cuneus); legs of moderate length, longly spinulose, the posterior femora distinctly thickened, posterior tarsi with the first and second joints subequal in length.

This genus seems to be clearly located in the division Camptotylaria, Reut.

3060. **Badezorus tyrianus,** *Dist. A. M. N. H.* (8) v, p. 15 (1910).

Head dull greyish; antennæ obscure ochraceous, the first joint (more or less) and the base of the second joint piceous; pronotum and scutellum virescent, sparsely palely pilose; corium dull greyish, the clavus virescent, the costal area strongly palely pilose, cuneus dull greyish, darkly pilose, at the internal angle with a small black punctate spot; membrane dull greyish, with

pale fuscous mottlings; body beneath and legs pale ochraceous, posterior femora apically black, tibiæ spotted with black, and from

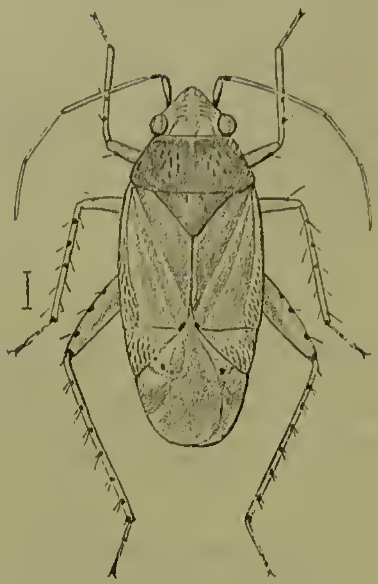

Fig. 155.—*Badezorus tyrianus.*

these spots on the posterior tibiæ the spinules arise in pairs, all the spinules black, apices of tarsi black; other characters as in generic diagnosis.

Length 3 millim.

Hab. Punjab; Lahore (*Annandale*).

Genus ACRATHEUS.

Acratheus, *Dist. A. M. N. H.* (8) v, p. 16 (1910).

Type, *A. nocturnus*, Dist.

Distribution. Bengal.

Head about as long as broad, strongly depressed anteriorly, a little centrally foveately impressed between the eyes, which are of moderate size, reach the base of head, and obliquely slightly project beyond the anterior margins of the pronotum; antennæ slender, first joint almost as long as head, second twice as long as first, third and fourth subequal in length, each a little shorter than second; rostrum robust, reaching the intermediate coxæ; pronotum anteriorly deflected at a short distance from base, thickly strongly punctate, the lateral margins acute, at base twice as broad as long and about one and a half times as broad as anterior margin, anterior and posterior margins truncate, the lateral margins oblique, posterior lateral angles subprominent; scutellum small, broad, subtriangular, a little longitudinally elevate and on lateral areas punctate; corium (including cuneus) as long as posterior tibiæ, including clavus thickly punctate, posteriorly

widened and rounded, cuneus very much broader than long, interiorly transversely angulate, cuneal fracture profound; membrane longly passing the abdominal apex, its greatest length almost equalling that of corium without cuneus; legs of moderate length, not spinulose.

To be placed in the division Laboparia and by the profound cuneal fracture near *Bilia*, Dist. (vol. ii, p. 480).

3061. **Acratheus nocturnus,** *Dist. A. M. N. H.* (8) v, p. 16 (1910).

Head orange-yellow, eyes black; antennæ stramineous, apical joint infuscate; pronotum, scutellum, and corium black; cuneus greyish white, with the basal marginal area black; membrane pale fuscous, with a large greyish white spot on lateral margin; head

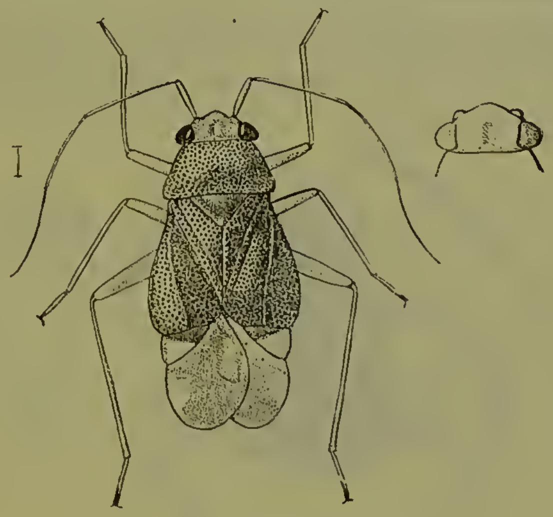

Fig. 156.—*Acratheus nocturnus.*

beneath orange-yellow or pale reddish; sternum and abdomen black; legs and rostrum pale stramineous; apices of tarsi black; structural characters as in generic diagnosis.

Length 3 millim.

Hab. Bengal; Bhogaon, Purneah Distr. (*Paiva*), Calcutta (*Ind. Mus.*). Kumaon, Bhim Tal, 4500 ft. (*Annandale*).

Genus ARISTOBULUS.

Aristobulus, *Dist. A. M. N. H.* (8) v, p. 16 (1910).

Type, *A. filius*, Dist.

Distribution. N. India.

Head about as broad as long, strongly deflected in front of eyes, which are situate at base of head and project beyond the anterior margin of the pronotum; antennæ pilose, with the first joint a little shorter than head and with a few long hairs, second more than twice as long as first, gradually moderately thickened on apical half, where it is also more strongly pilose, third twice

as long as fourth and together as long as second; rostrum almost reaching the posterior coxæ; pronotum at base about one and a half times as broad as long and about one-third longer than anterior margin, the lateral margins rather roundly oblique, the anterior area transversely bi-callose, the posterior area transversely striate; scutellum triangular, transversely constricted near base; corium covering about two-thirds of the abdomen, longitudinally ridged, apical and lateral margins a little rounded, cuneus and membrane undeveloped; abdomen widened posteriorly, deflected on its apical area and pilose; legs of moderate length; tibiæ pilose.

Somewhat allied to the Palæarctic genus *Euryopicoris*, Reut.

3062. **Aristobulus filius**, *Dist. A. M. N. H.* (8) v, p. 17 (1910).

Head, pronotum, scutellum, and corium shining piceous black; abdomen above and body beneath shining jet-black; legs pale

Fig. 157.—*Aristobulus filius.*

ochraceous; body shortly, finely, greyish pilose; structural characters as in generic diagnosis.

Length 3 millim.

Hab. Darjiling, 6000 ft.

Genus **SAMPSIGERAMUS.**

Sampsigeramus, *Dist. A. M. N. H.* (8) v, p. 17 (1910).

Type, *S. pilosulus*, Dist.

Distribution. Ceylon.

Head broader than long, anteriorly deflected; eyes small, situate at base of head, scarcely projecting beyond the anterior

margins of the pronotum; antennæ moderately slender, first joint shorter than head, second about three times as long as first, third shorter than second, but considerably longer than fourth; rostrum distinctly passing the posterior coxæ; pronotum at base more than twice as broad as long and about half as broad again as anterior margin, deflected on anterior half, very obscurely transversely callose on anterior area, anterior and posterior margins truncate, lateral margins a little roundly oblique, the posterior angles obtusely rounded; scutellum subtriangular; corium (excluding cuneus) about as long as posterior tibiæ, including clavus twice as long as broad; cuneus about as broad at base as outwardly long; membrane considerably passing abdominal apex, its greatest length as long as intermediate tibiæ; head, pronotum, scutellum, corium, and cuneus densely pilose; legs spinulose, the tibiæ more thickly and strongly so, the femora, especially the posterior, distinctly thickened; posterior tarsi with the basal joint longest.

The position of this genus is near the Palæarctic *Plagiotylus*, Scott.

3063. **Sampsigeramus pilosulus**, *Dist. A. M. N. H.* (8) v, p. 18 (1910).

Head obscure dull ochraceous, thickly pilose; antennæ piceous black, the second joint centrally broadly annulated with dull ochraceous, eyes black; pronotum thickly strongly pilose and darkly granulose, dull ochraceous, the disk more or less discoloured and darker in hue; scutellum somewhat

Fig. 158.—*Sampsigeramus pilosulus.*

palely piceous, thickly strongly pilose and darkly granulose; corium somewhat palely piceous, the costal area and cuneus pale ochraceous, strongly, thickly, darkly pilose; membrane very pale fuliginous with paler mottlings, especially at the apices of the cells; body beneath black, finely pilose; legs ochraceous,

annulated with black, the posterior femora much more distinctly so than the anterior or intermediate femora, tibial spinules long, black, placed in pairs at the black annulations, apices of the tar black; structural characters as in generic diagnosis.

Length 3 millim.

Hab. Ceylon; Hakgala (*Green*).

On *Anaphalis oblonga*, D. L. (*E. E. Green*).

Genus **RAGMUS.**

Ragmus, *Dist. A. M. N. H.* (8) v, p. 18 (1910).

Type, *R. importunitas*, Dist.

Distribution. India, Ceylon.

Head as long as broad, deflected anteriorly, eyes globular, of moderate size, placed at base of head, scarcely projecting beyond the anterior margins of the pronotum; antennæ with the first joint shorter than head, slightly thickened and with two spinules, second joint more than three times as long as

Fig. 159.—*Ragmus importunitas.*

first and spinulose; rostrum reaching the intermediate coxæ; pronotum at base more than twice as broad as long and less than twice as broad as anterior margin; posterior margin concave, exposing the mesonotum, two transverse callosities before anterior margin, the lateral margins oblique; scutellum subtriangular; corium (including cuneus) only slightly longer than posterior tibiæ; cuneus as broad at base as outwardly long and distinctly longly sparsely pilose; membrane considerably passing the abdominal apex; legs of moderate length, anterior and intermediate femora slightly, posterior femora much more distinctly spinulose, tibiæ distinctly, longly spinulose; posterior tarsi with the basal joint longest.

3064. **Ragmus importunitas**, *Dist. A. M. N. H.* (8) v, p. 18 (1910).

Pale ochraceous, probably more virescent in living specimens; eyes and third and fourth joints of antennæ pitchy black; head with two transverse darker impressions in front of eyes and a more or less distinct central foveation near base; cuneus distinctly, more or less darkly, sparsely pilose; membrane hyaline; body beneath and legs pale ochraceous, anterior and intermediate femora slightly, posterior femora more distinctly spotted with black, tibiæ (the anterior less prominently so) spotted with black, the spinules black and placed near the black spots, apices of the tarsi black; other characters as in generic diagnosis.

Length $3\frac{1}{2}$ millim.

Hab. Ceylon; Peradeniya (*Green*).

Punctures leaves of *Crotalaria verrucosa* and *C. incarna* (*E. E. Green*).

3065. **Ragmus pellucidus**, *Dist. A. M. N. H.* (8) v, p. 19 (1910).

Allied to *R. importunitas*, but smaller, paler, and somewhat uniformly greyish ochraceous; antennæ concolorous, the third and fourth joints not pitchy black; legs more obscurely spotted with black.

Length 3 millim.

Hab. Simla Hills; Dharampur, 5000 ft. (*Annandale*). Punjab; Lahore (*Annandale*). Malabar; Cochin State, Ernakulam (*Annandale*).

This species seems to be quite distinct from its Ceylonese ally, which is perfectly constant in a long series sent to me by Mr. Green.

Genus **PSALLUS**. (Vol. II, p. 482.)

3066. **Psallus kurseongensis**, *Dist. A. M. N. H.* (8) v, p. 19 (1910).

♂. Black, thickly palely pilose; lateral margins of the corium narrowly ochraceous; cuneus sometimes pale castaneous, its basal and apical margins more or less distinctly pale ochraceous; membrane fuliginous, the cellular and apical margins paler; body beneath black, greyishly pilose; legs ochraceous, apices of anterior and intermediate femora, posterior femora (excluding basal areas), bases of anterior and intermediate tibiæ, macular annulations to posterior tibiæ, and the apices of the tarsi black; first and second joints of antennæ black, third and fourth palely fuscous, first joint as long or nearly as long as head, second joint more than twice the length of first; rostrum ochraceous, about reaching the intermediate coxæ; pronotum with a transverse foveate impression on each side of anterior area; tibiæ spinulose, the spinules on the posterior tibiæ inserted at the black

spots; femora moderately but distinctly thickened, the posterior femora more distinctly so.

Length $3\frac{1}{2}$ to 4 millim.

Hab. E. Himalayas; Kurseong, 5000 ft. (*Ind. Mus.*).

Genus **IDATIUS.**

(To follow *Psallus*, Vol. II, p. 482.)

Idatius, *Dist. A. M. N. H.* (8) v, p. 20 (1910).

Type, *I. priscillianus*, Dist.

Distribution. Northern India.

Head about as long as broad, not foveately sulcate between the eyes, which project considerably beyond the anterior margins of the pronotum; antennæ with the first and second joints moderately thickened, the first distinctly shorter than head, second four times the length of first, third and fourth slender but together not so long as second; rostrum robust, reaching the intermediate coxæ; pronotum at base twice as broad as long and about twice as broad as at anterior margin, deflected anteriorly, the lateral margins a little roundly oblique, the posterior margin subtruncate; scutellum somewhat large and triangular, moderately transversely impressed before middle; corium (excluding cuneus) considerably longer than second joint of antennæ; cuneus with the basal and outer margins subequal in length; membrane considerably passing the abdominal apex, with a distinct basal cell; posterior femora moderately thickened, posterior tibiæ spinulose.

3067. **Idatius priscillianus,** *Dist. A. M. N. H.* (8) v, p. 20 (1910).

Black; eyes black; antennæ with the basal joint brownish

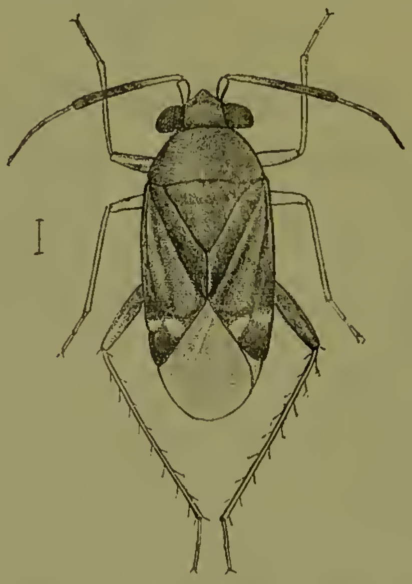

Fig. 160.—*Idatius priscillianus.*

ochraceous, second joint black, with its basal area brownish ochraceous, third and fourth joints palely fuscous, basal area of third

ochraceous; cuneus with two greyish spots near base; membrane pale fuliginous; body beneath black; legs ochraceous, posterior femora castaneous, the spinules to the posterior tibiæ and the apices of the tarsi black; pronotum and scutellum shining black, faintly transversely striate; corium obscurely pilose and finely punctate; other structural characters as in generic diagnosis.

Length 3 millim.

Hab. Bengal; Paresnath, 4000 to 4500 ft. (*Annandale*). Simla Hills; Dharampur, 5000 ft. (*Annandale*). Nicobar Islds. (*fide Reuter*).

Genus SEJANUS.

Sejanus, *Dist. A. M. N. H.* (8) v, p. 20 (1910).

Type, *S. funereus*, Dist.

Distribution. Ceylon.

Head about as long as broad, deeply, broadly, roundly, foveately sulcate between the eyes, which are large and project beyond the anterior margins of the pronotum; antennæ with the first and second joints moderately thickened, the second more robust than the first, which is short and about the length of the eyes, second

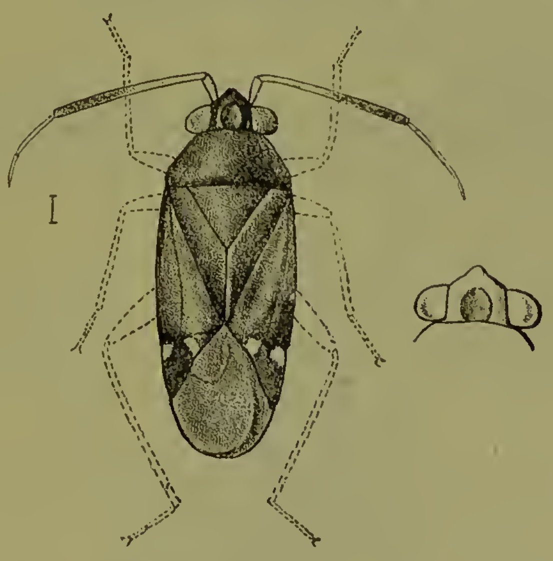

Fig. 161.—*Sejanus funereus.*

joint about five times the length of first, third and fourth slender, third about twice as long as first, fourth as long as first; rostrum robust and reaching the posterior coxæ; pronotum twice as broad as long, the lateral margins oblique, posterior margin subtruncate; scutellum somewhat large and triangular; corium (excluding cuneus) about as long as second joint of antennæ, cuneus with the basal and outer margins subequal in length, angularly narrowed at apex; membrane considerably passing the abdominal apex, with a single basal cell; legs mutilated in typical specimen.

This genus is founded on a single specimen sent to me by Mr. Green from Ceylon, and although wanting the legs cannot be left out of the enumeration of the Capsidæ of British India.

3068. **Sejanus funereus**, *Dist. A. M. N. H.* (8) v, p. 21 (1910).

Black; eyes castaneous brown; antennæ with the basal joint brownish ochraceous, the second joint black, with its basal area brownish ochraceous, third and fourth joints stramineous; cuneus with two basal greyish spots; membrane fuscous, the margins paler; rostrum black, its basal area brownish ochraceous; body beneath black; corium shortly, finely, palely pilose; structural characters as in generic diagnosis.

Length $2\frac{1}{2}$ millim.

Hab. Ceylon (*Green*).

This species was contained in some miscellaneous sweepings kindly collected for me by our helpful friend Mr. E. E. Green.

Genus SABACTUS.

(Near *Campylomma*, Vol. II, p. 483.)

Sabactus, *Dist. A. M. N. H.* (8) v, p. 21 (1910).

Type, *S. institutus*, Dist.

Distribution. Ceylon.

Head about as long as broad, deflected and narrowed in front of eyes, which are transverse and strongly project beyond the

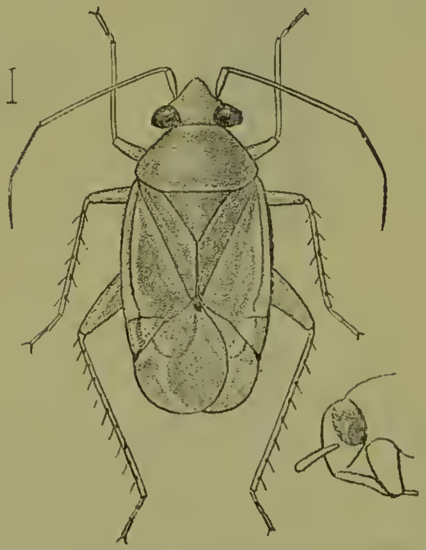

Fig. 162.—*Sabactus institutus.*

anterior margins of the pronotum; antennæ slender, first joint shorter than head, second about four times as long as first, third longer than fourth and together distinctly shorter than second;

rostrum reaching the posterior coxæ; pronotum at base twice as broad as long and about two and a half times as broad as anterior margin, moderately convex, deflected anteriorly, the basal margin before scutellum truncate, oblique towards posterior angles; scutellum subtriangular; corium (excluding cuneus) as long as second joint of antennæ, including clavus and cuneus twice as long as broad, cuneus considerably broader than long; posterior femora moderately thickened, intermediate and posterior tibiæ spinulose.

A genus to be placed near *Campylomma*, Reut.

3069. **Sabactus institutus**, *Dist. A. M. N. H.* (8) v, p. 21 (1910).

Brownish ochraceous; eyes, a small spot at apex of claval suture, and the apex of cuneus black; antennæ ochraceous, third and fourth joints palely fuscous; lateral areas of corium and the cuneus pale ochraceous; membrane pale fuliginous, the margins pale ochraceous; body beneath and legs ochraceous, intermediate and posterior tibiæ finely spotted with black, the spinules black; structural characters as in generic diagnosis.

Length 3 millim.

Hab. Ceylon; Peradeniya (*Green*).

Species which are likely to be found in the Fauna of British India.

Lopus cingulatus.

Cimex cingulatus, *Fabr. Mant. Ins.* ii, p. 307. 287 (1787); *id.* (Miris) *Syst. Rhyng.* p. 255. 13 (1803); *Reut.* (Lopus), *Hem. Gymn. Europ.* v, p. 316, Tab. x, f. 3 (1896).

Dr. Bergroth has drawn my attention to this species. He writes: "The type specimen of *Lopus cingulatus*, Fabr. was described from 'India Orientalis,' where it was found by Schlan[gen]busch, who sent many insects to Fabricius. It is not mentioned in your Indian Fauna, but as it is a common south Palæarctic species it may really be distributed as far as to India."

Fulvius brevicornis, *Reut. Ent. Tidskr.* 1895, p. 138; *Popp. Act. Soc. Sci. Fenn.* xxxvii, no. 4, p. 44 (1910).

Poppius includes in the localities for this species:—Burma; Bhamo. W. Africa. France; Rouen. West Indies and Venezuela.

Subfamily ISOMETOPINÆ. (Vol. II, p. 483.)

Genus **JEHANIA**, nov.

(To follow *Turnebus*, Vol. II, p. 485.)

Body broadly ovate; head (including eyes) considerably narrower than the pronotum, about as long as broad at base; ocelli a little behind middle and between the eyes, which are somewhat long and

prominent; antennæ slender, basal joint not passing eyes, second and third joints subequal in length, fourth short and moderately thickened; pronotum transverse, about three times broader at base than long, centrally transversely impressed, the anterior angles rounded, lateral margins convex, posterior margin subconcavely sinuate; mesonotum exposed; scutellum longer than broad at base, angularly attenuated from base; corium broad, costal margin moderately convex, cuneus broad, a little broader than long; membrane passing the abdominal apex, with a single narrow cell at base; rostrum long, a little passing the posterior coxæ; femora distinctly thickened.

3070. **Jehania mahal**, sp. n.

Obscure greyish, spotted and marked with black; head pale ochraceous, with a central black fascia, bifurcating anteriorly, before the ocelli; antennæ brownish ochraceous, more than apical half of second joint (excluding extreme apex), third joint and base of fourth pale fuscous; pronotum obscure yellowish grey with a broad central longitudinal fascia branching off laterally on each side, black; mesonotum black, its lateral margins narrowly

Fig. 165.—*Jehania mahal.*

yellowish grey; scutellum black, its lateral margins (excluding base and apex) yellowish grey; corium, clavus, and cuneus yellowish grey, a small spot at base and two large spots on disk of corium and a transverse spot on cuneus, black; membrane greyish, finely spotted with piceous, the base reflecting the dark abdomen beneath, the dark basal cell outwardly palely margined; sternum and legs pale ochraceous; a spot near anterior and intermediate coxæ and subapical annulation to femora black.

Length 3 millim.

Hab. E. Himalayas; Kurseong, 4,700 ft. (*Annandale, Ind. Mus.*).

"Among lichen on tree-trunk." (*N. Annandale.*)

Family ANTHOCORIDÆ. (Vol. III, p. 1.)

A considerable divergence in the generic concepts of different entomologists is very marked in this family, and the difficulty thus created is considerably increased by the many genera which have been divided into subgenera. A genus being purely an artificial arrangement necessarily used in the classification and arrangement of species, the use of subgeneric names seems scarcely warranted. Most of Stål's subgeneric divisions are now used in a generic sense. If divisions of the genus are considered necessary, they scarcely need distinctive names, if they represent true divisions they are for all purposes true genera. The term genus, by the use made of it, is somewhat "fetish"; in a library catalogue it would represent the shelf on which are found the books relating either to a common subject or to the divisions of that subject as it becomes more elaborated by further study. Reuter and Poppius have described a number of genera of these minute insects from Malayan habitats; but as they have not been figured, it is almost impossible to say whether they may not also be represented in British India, and hence some of the new genera here proposed may possibly prove to be synonymous with genera they have described.

I have to thank Dr. Handlirsch of the Vienna Museum for letting me see and figure some of the species recently described by Poppius.

Genus **SEPTICIUS**, nov.

(To follow *Ostorodias*, Vol. III, p. 2.)

Type, *S. clarus*, Dist.

Distribution. Bengal.

Subovate, subdepressed; head very little longer than broad at base, central lobe prominent, very slightly extending beyond the lateral lobes; eyes large but slightly adpressed, ocelli near posterior margins of eyes; antennæ longly pilose, first and second joints stout, first joint about reaching apex of head, second nearly twice as long as first and thicker at apex than at base, third and fourth slender, almost subequal in length; pronotum twice as broad at base as long, anteriorly moderately convexly gibbous, anterior collar distinct and finely transversely striate, transversely impressed near base, behind the impression finely transversely wrinkled, lateral margins sinuate, rounded towards anterior margin, basal margin nearly straight, only slightly emarginate; scutellum triangular; corium (including embolium) about as long as posterior tibiæ, cuneal fracture distinct, outer margin of cuneus rounded; membrane considerably passing abdominal apex;

rostrum reaching the intermediate coxæ, first joint reaching base of head; legs finely hirsute, anterior femora strongly thickened.

3071. **Septicius clarus**, sp. n.

Head, pronotum and scutellum shining black, apical area of head somewhat dark castaneous; antennæ more or less pitchy brown; pronotum obscurely finely palely pilose; hemelytra subhyaline, shaded with dark greyish and sparsely finely pilose;

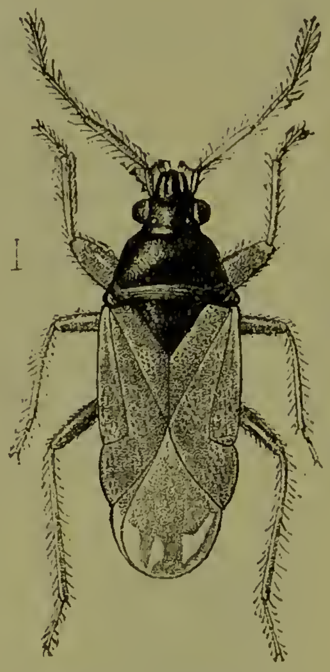

Fig. 164.—*Septicius clarus.*

about basal half of embolium pale, neither shaded nor pilose; membrane pale, inner apical margins of clavus and outer and posterior margins of cuneus narrowly darker; body beneath black, rostrum and legs ochraceous, femora (excluding bases and apices) pitchy brown; other structural characters as in generic diagnosis.

Length 3 millim.

Hab. Calcutta.

Genus **ARNULPHUS**. (Vol. III, p. 3.)

Anthocoris, *Popp.* (*nec Fall.*) *Wien. ent. Zeit.* xxix, p. 139 (1910).

ARNULPHUS ATERRIMUS, *Dist.* (Vol. III, p. 3.)

Anthocoris aterrimus, *Popp. Wien. ent. Zeit.* xxix, p. 139 (1910).

Poppius appears to have created the above synonymy without adequate reason. I submit the figure of *A. aterrimus* (vol. iii,

p. 3, f. 2) and the figures of his two species of *Anthocoris* on the following pages, as argument for my contention. If, however, *aterrimus*, Dist., is to be placed in *Anthocoris*, it is well to remember that Sahlberg described a species under the name of *Anthocoris aterrimus*, which is now placed in the genus *Tetraphleps*, and therefore the proposal "once a homonym always a homonym" (with which in the sense proposed I entirely disagree) would necessitate a new name for the species, by those who follow the Kirkaldian method.

Genus **GALCHANA**, nov.

(To follow *Arnulphus*, Vol. III, p. 3.)

Type, *G. humeralis*, Dist.

Distribution. North India.

Head long and slender, longer than breadth including eyes; antennæ setose, with the first joint short, not reaching apex of head, second about twice as long as first, third a little shorter

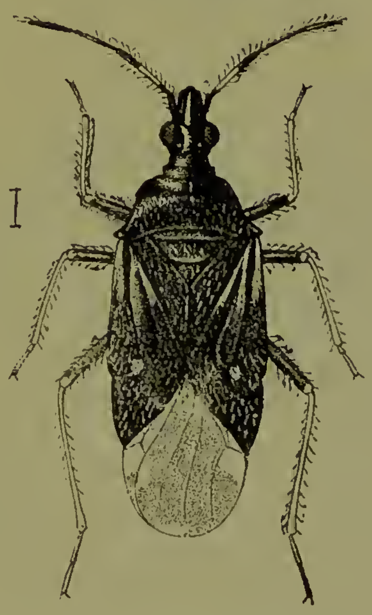

Fig. 165.—*Galchana humeralis.*

than second, about as long as fourth; rostrum reaching the anterior coxæ, second joint much the longest; pronotum slightly more than twice broader at base than long, two transverse incisions on anterior area enclosing a collar and a transverse callose region behind it, the basal margin moderately concave, the lateral margins obliquely sinuate, the posterior angles distinctly subangularly prominent; scutellum triangular with two transverse ridges, one near base, the other just behind middle;

corium as far as apex of embolium about as long as posterior tibiæ, cuneal area large and distinctly separated; membrane considerably passing abdominal apex; legs moderately slender, setose.

The structure of the pronotum and scutellum are the principal characteristics of this genus; the length of the head allies it to *Arnulphus*.

3072. **Galchana humeralis**, sp. n.

Head, pronotum, scutellum and hemelytra shining black, distinctly and somewhat ochraceously pilose; basal costal margin of corium preceded by two longitudinal streaks, and a spot near apex of embolium, ochraceous; membrane pitchy brown with two spots near base of outer margin and a spot on inner margin greyish-white; body beneath black; femora piceous, their extreme bases and apices and the whole of the tibiæ ochraceous, tarsi ochraceous with their apices blackish; antennæ black, second joint with a broad ochraceous annulation; structural characters as in generic diagnosis.

Length 3 millim.

Hab. Simla.

Genus **ANTHOCORIS.**

Anthocoris, *Fall.* (part.) *Hem. Suec.* p. 65 (1826); *Fieb. Wien. ent. Mon.* iv, p. 263, t. vi, f. H (1860); *id. Eur. Hem.* pp. 38 & 136 (1861); *Reut. Act. Soc. Sci. Fenn.* xiv, p. 620 (1885); *Champ Biol. Centr.-Am., Rhynch., Hem.-Het.* ii, p. 323 (1900); *Oshan Verz. Pal. Hem.-Het.* ii, p. 622 (1908).
Rhynarius, *Hahn, Wanz. Ins.* i, p. 104 (1831).
Leptomeris, *Lap. Ess. Hem.* p. 10 (1835).
Phyllocoris, *Costa, Atti Ist. incor. Sc. Nap.* vii, p. 264 (1847).
? Zopherocoris, *Reut. Öfv. Vet.-Akad. Förh.* 1871, p. 565.

Type, *A. nemorum*, Linn., a Palæarctic species.

Distribution. Palæarctic, Nearctic, Neotropical, and Oriental Regions. Probably more widely distributed.

Saunders (Hem. Het. Brit. Islds. p. 196, 1892) has shortly but concisely diagnosed this genus as follows:—" Head with the eyes not touching the pronotum; ocelli placed posteriorly, close to the inner margin of the eyes; antennæ with the second joint not nearly so long as the third and fourth together; rostrum short, reaching to about the anterior coxæ; pronotum with a well-marked apical collar, sides behind it more or less rounded, base longly sinuate; scutellum impressed at the base; elytra always developed, their sides subparallel or slightly rounded; legs simple, posterior coxæ close together, the metasternum produced between them in a narrowly rounded lobe." (*Saunders.*)

3073. **Anthocoris annulipes**, *Popp. Acta Soc. Sci. Fenn.* xxxvii, no. 9, p. 31 (1909).

Head, pronotum, and scutellum black; hemelytra fuscous brown or ochraceous, apical area of embolium, cuneus, inner angular area of corium, and outer area of clavus (more or less)

Fig. 166.—*Anthocoris annulipes.*

piceous, about basal third of costal margin pale stramineous; membrane fuscous brown, a pale spot near base and on lateral margin, and between the latter indications of a paler transverse fascia; body beneath black; legs pale ochraceous, femora more or less apically annulated with piceous; antennæ hirsute with the basal joint black, second joint ochraceous with its apex black, third ochraceous with its apical half black, first joint not reaching apex of head, second about twice as long as first; pronotum very strongly transversely impressed before middle and finely punctate; body above finely irregularly pilose; tibiæ pilose.

Length 4 millim.

Hab. Darjiling, Sikhim (*Vienna Mus.*).

3074. **Anthocoris indicus**, *Popp. Acta Soc. Sci. Fenn.* xxxvii, no. 9, p. 32 (1910).

Very closely allied to the preceding species, and the differences apparently only a matter of coloration; these differences consist of the first, second, and third joints of the antennæ being black, and the femora (excluding apices) being also black.

In the absence of structural differentiation, at least so far as I have observed, I take this form to be simply a strongly

coloured variety of the previous species described by Poppius as *A. annulipes*, and include it here as a distinct species with very great doubt. I have figured it to prevent future obscuration.

Fig. 167.—*Anthocoris indicus.*

Length 4 millim.

Hab. Darjiling (*Vienna Mus.*).

Poppius gives the length as 3·6 millim., but in the type now before me the membrane is curled up at its apex, and this has evidently misled him. In size it exactly resembles *A. annulipes*, Popp.

Genus **AMPHIAREUS**. (Vol. III, p. 4.)

Amphiareus fulvescens. (Vol. III, p. 4.)

Cardiastethus fulvescens, *Popp. Acta Soc. Sci. Fenn.* xxxvii, no. 9, p. 19 (1909).

Add:—*Hab.* Comoro Ins.; Anjonam. Malay Peninsula; Kwala-Lumpur, Singapore. Sumatra. Engano. Celebes. New Guinea (*fide Poppius*).

Genus **LIPPOMANUS**. (Vol. III, p. 5.)

Cardiastethus, *Popp. (nec Fieb.) Acta Soc. Sci. Fenn.* xxxvii, no. 9, p. 16 (1909).

Genus **ALMEIDA**, nov.

Type, *A. pilosus*, Popp.

Distribution. India; Ceylon; Malay Archipelago.

Allied to *Lippomanus*, Dist., from which it differs in the more ampliate and sinuate lateral margins of the pronotum and the

more concavely emarginate base of same; antennæ with the first joint about or almost reaching apex of head, second joint not longer than third. From *Cardiastethus*, Fieb. (in which the type was included by Poppius) it similarly differs in the shape of the pronotum, the lateral margins of which are entirely different, as may be seen by a reference to Fieber's figure (Wien. Ent. Mon. iv, pl. vi, fig. R, 1860), and also by the much narrower anterior margin of the pronotum, a character which allies it to *Lippomanus*.

3075. **Almeida pilosus**, *Popp.* (Cardiastethus) *Acta Soc. Sci. Fenn.* xxxvii, no. 9, p. 21 (1909).

Head, pronotum, scutellum, and clavus bright ochraceous, posterior lateral angular areas of pronotum piceous or black; hemelytra paler ochraceous, cuneal area (excluding base) and the apex of clavus piceous; body beneath and legs ochraceous; eyes

Fig. 168.—*Almeida pilosus.*

black; first and second joints of antennæ thickened, apical area of second thicker than first, second joint almost twice as long as first, third and fourth joints each a little longer than second and subequal in length, all the joints setose; pronotum with a transverse series of punctures near anterior margin and a similar transverse series near middle; behind the latter some scattered punctures, more prominent near the lateral angular areas; scutellum and clavus coarsely punctate and a line of coarse punctures outside the claval margin; body and legs pilose, legs, lateral margins of pronotum, costal margin of corium, and cuneus longly so.

Length 3 millim.

Hab. Calcutta (*Paiva*). Ceylon; Henaratgoda (*Vienna Mus.*).—Celebes; Macassar (*fide Poppius*).

Genus LASIOCHILUS.

(To follow *Lippomanus*, Vol. III, p. 5.)

Lasiochilus, *Reut. Öfv. Vet.-Ak. Förh.* 1871, p. 562; *id. Act. Soc. Sci. Fenn.* xiv, p. 567 (1885); *Champ. Biol. Centr.-Am., Rhynch., Hem.-Het.* ii, p. 307 (1900).
Subgen. Dilasia, *Reut. Öfv. Vet.-Ak. Förh.* 1871, p. 563.
Subgen. Hapa, *Buch. White, Proc. Zool. Soc. Lond.* 1878, p. 465
Subgen. Semiotoscelis, *Reut. Act. Soc. Sci. Fenn.* xiv, p. 578 (1885).

Type, *L. pallidulus*, Reut., a Nearctic and Neotropical species.
Distribution. Nearctic, Neotropical, and Oriental Regions; St. Helena.

As Champion remarks (*supra*) the chief characteristics of this genus are the short backwardly-curved orifice of the metastethium and the strongly pilose elytra, the outer margin of the embolium appearing ciliate. From *Lippomanus* it is distinguished by the longer anterior margin of the pronotum, and thus the less oblique structure of same, the straighter or slightly convex, not concave margins of the corium, &c.

3076. **Lasiochilus corticalis**, *Reut.* (subgen. Dilasia) *Act. Soc. Sci. Fenn.* xiv, p. 573 (1885).

Piceous; oblong; fuscously pilose, hemelytra besides with flavous adpressed long pubescent pile; antennæ fuscous, the last

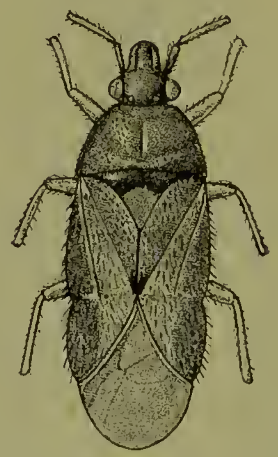

Fig. 169.—*Lasiochilus corticalis.*

joint testaceous; rostrum, tibiæ and tarsi flavous-testaceous; scutellum (excepting base) and hemelytra fuscous; extreme base of corium and a small spot at interior apical angle of embolium pale ochraceous; embolium and cuneus externally more obscurely

coloured; membrane infuscate, the suture towards apex of cuneus narrowly hyaline; pronotum twice as broad at base as long, laterally shortly ciliate, towards apex very gradually narrowed, a little before apex somewhat strongly arcuate, the disk distinctly longitudinally sulcate: antennæ with the second joint twice as long as first; first joint of rostrum reaching the insertion of the antennæ.

Length $2\frac{3}{8}$ millim.

Hab. Nicobar Islds.; Milo, Nankauri (*Copenhagen Mus.*).

By the kind assistance of Dr. Böving, I have been able to figure and examine this species.

3077. **Lasiochilus perminutus**, *Popp. Act. Soc. Sci. Fenn.* xxxvii, no. 9, p. 7 (1909).

Head and pronotum pitchy black, head a little darker in hue and with its apex dull ochraceous; scutellum brownish ochraceous; hemelytra pale ochraceous, the cuneal area and embolium a little darker; membrane dull greyish; body beneath and legs ochraceous; antennæ hirsute, first and second joints stoutest and piceous,

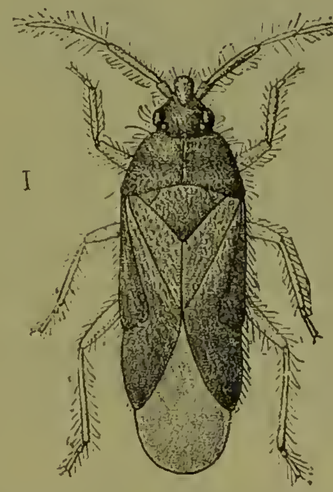

Fig. 170.—*Lasiochilus perminutus.*

third and fourth ochraceous, second rather more than twice as long as first; pronotum with the anterior area transversely callose and longitudinally centrally impressed, the lateral margins longly pilose; scutellum and hemelytra finely sparsely pilose; legs somewhat longly pilose.

Length 1·4 millim.

Hab. Ceylon; Peradeniya (*Vienna Museum*).

Genus SESELLIUS. (Vol. III, p. 6.)

SESELLIUS PARALLELUS, *Motsch.* (Vol. III, p. 6.)

Scoloposcelis picicornis, *Popp. Acta Soc. Sci. Fenn.* xxxvii, no. 9, p. 26 (1909).
Scoloposcelis parallelus, *Popp. Wien. ent. Zeit.* xxix, p. 140 (1910).

Add: *Hab.* Mentawei Isld.; St. Oban. Engano Isld. Aru Isld. (*fide Poppius*).

Under the genus *Scoloposcelis*, Fieb. (Palæarctic, Nearctic, and Neotropical) Poppius has included *Ostorodias*, Dist. (vol. iii, p. 3, fig. 1) and *Sesellius*, Dist. (vol. iii, p. 7, fig. 6). There must always be a difference in the individual estimation of what constitutes generic characters, but I am content to refer to my figures and descriptions.

The three genera can be thus differentiated.

A. Anterior femora prominently thickened and spinose beneath.
  a. Head broad, including eyes, about as broad as long; pronotum with a prominently raised central longitudinal carination or ridge; scutellum with two profound basal foveæ .... OSTORODIAS, Dist.
  b. Head slender, elongate, longer than breadth including eyes; pronotum not prominently centrally raised or ridged; scutellum without two basal foveæ .... SCOLOPOSCELIS, Fieb.
B. Anterior and posterior femora prominently thickened and spinose beneath............ SESELLIUS, Dist.

Poppius has rightly suppressed his *S. picicornis* (supra) as a synonym of *S. parallelus*, Motsch. (vol. iii, p. 7).

Genus HORNIELLA.

Horniella, *Popp. Wien. ent. Zeit.* xxix, p. 139 (1910).

Type, *H. polita*, Popp.
Distribution. Ceylon.

"Body somewhat depressed, strongly shining, above clothed with very short pale hairs, only visible under a strong magnifying glass, the hairs wide apart; head scarcely longer than its width including the eyes, rather shortly produced in front; eyes moderately large and prominent, a little remote from the front margin of the pronotum; antennæ about as long as head and pronotum

together, first joint slightly thickened and only slightly passing apex of head, second about twice longer, thickened towards its apex and there just as thick as first, the last two of equal length, shorter than second, both thickened but the last stouter than third which is just as thick as apex of second; rostrum reaching the anterior coxæ, first joint scarcely reaching the root of antennæ, second scarcely extending beyond base of head; pronotum like the head impunctate, very obsoletely transversely striate, base broadly rounded, the sides which are narrowly margined roundly narrowed towards front; apical constriction rather broad, distinctly interrupted in the middle, disk slightly convex, before the middle rather deeply transversely impressed, front lobe rather more strongly arched; impunctate scutellum transversely impressed at base; hemelytra in ♂ extending to apex of abdomen and just as strongly shining as the fore part, only the cuneus appearing rather duller; the hemelytra everywhere uniformly very finely and sparsely punctate, the embolium rather broadly detached; orifices of the metasternum short, only shallowly curved in front, without a longitudinal carination running from the apex; posterior coxæ rather widely separated, metasternum between them rather narrowly rounded; legs unarmed.

"Very much reminding one of the genus *Triphleps*, but the body strongly shining and very shortly haired; antennæ and the apertures of the metasternum very differently formed, and the apical constriction of the pronotum is distinct. Immediately to be distinguished from *Lampronannella*, Popp. by the unarmed legs." . (*Poppius.*)

3078. **Horniella polita,** *Popp. Wien. ent. Zeit.* xxix. p. 140 (1910).

"Black; head, hemelytra, first two joints of antennæ, rostrum and legs brown; tibiæ darker, tarsi paler; cuneus and apical third of embolium black; membrane greyish yellow, slightly iridescent; front in ♂ broad, about twice broader than diameter of eyes; basal margin of pronotum about twice the median length, almost twice as broad as the front margin; with a bristle on each side before the front angle." (*Poppius.*)

"Length 1·9 millim."

Hab. Ceylon; Hapulale (*fide Popp*,, *Mus. Helsingfors*).

I have not seen this species; it is hoped that one day it may be figured.

Genus TRIPHLEPS. (Vol. III, p. 8.)

3079. **Triphleps ianthe,** sp. n.

Head, pronotum, scutellum and body beneath shining black; antennæ and legs pale ochraceous; hemelytra with the clavus and corium very pale ochraceous, somewhat sparsely and darkly punctate; embolium impunctate; membrane greyish white; antennæ with the first joint not quite reaching apex of head, second

joint longest, third and fourth subequal in length or third slightly shorter than fourth ; pronotum about half as long as breadth at base, the anterior collar distinct, anterior angles slightly rounded, near anterior margin somewhat transversely wrinkled, the posterior

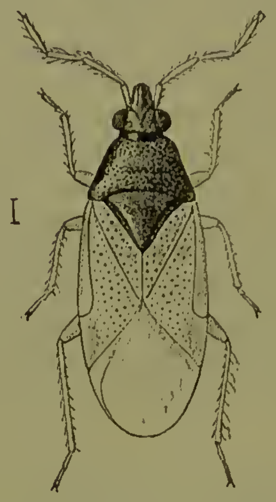

Fig. 171.—*Triphleps ianthe.*

and lateral areas and the anterior marginal area coarsely punctate, a little behind middle transversely impressed, posterior margin moderately concave ; scutellum less prominently punctate than the pronotum, strongly obliquely deflected from base to apical area which is finely transversely wrinked ; tibiæ finely setose.

Length 2 millim.

Hab. Calcutta.

3080. **Tripleps sublævis,** *Popp. Act. Soc. Sci. Fenn.* xxxvii, no. 9, p. 36 (1909).

Head, pronotum and scutellum shining black ; hemelytra

Fig. 172.—*Triphleps sublævis.*

ochraceous, the cuneal area outwardly pale castaneous ; membrane

on basal area reflecting the dark abdomen beneath ; body beneath black, legs ochraceous ; antennæ more or less ochraceous, pilose ; pronotum strongly transversely impressed near middle.

Length 2·4 millim.

Hab. Darjeeling (*Vienna Mus.*). Sumatra (*fide Poppius*).

Of this and some other of the small species described by Poppius, I have merely described the characters of coloration, and for the structural characters rely on the figures which have been carefully portrayed by the artist under the microscope.

3081. **Triphleps puncticollis**, *Popp. Act. Soc. Sci. Fenn.* xxxvii, no. 9, p. 38 (1910).

"Elongate, oval, shining, above with short depressed pale hairs ; black, the apex of head yellowish red, the hemelytra, antennæ and legs yellow, apex of cuneus somewhat darkened ; head including eyes distinctly broader than long, eyes large and prominent, front very finely transversely wrinkled and also finely punctured in the middle ; rostrum yellowish brown, extending to the anterior coxæ ; antennæ moderately slender, second joint as long as front between the eyes, last two joints rather more slender, slightly spindle-shaped, equally long, rather shorter than second ; pronotum broad, slightly narrowed towards the front, the sides first running straight, then before apex rather strongly roundly narrowed, towards the apex more broadly margined, basal margin broad, very slightly emarginate, nearly twice broader than the median length, about half broader than front margin, apical collar obsolete, the moderately arched disk has a slight transverse impression rather behind the middle, the calli slightly convex, smooth, remaining parts of anterior half rather thickly and finely punctured, basal area thickly and strongly punctured ; the whole scutellum thickly punctured, rather more finely so than the basal area of pronotum ; hemelytra strongly punctured, rather more sparingly so than the pronotum, punctures of the clavus not stronger ; membrane yellowish ; cell-hook on hind wings rising rather far from the 'vena decurrens.' (*Poppius.*)

"Length 1·5 millim."

Hab. Ceylon ; Peradeniya (*Uzel, Vienna Mus.*).

"Nearest allied to *T. laticollis*, Reut., but considerably smaller and the legs and antennæ differently coloured." (*Poppius.*)

3082. **Triphleps pluto**, sp. n.

Head, pronotum and scutellum shining black : corium and clavus fuscous brown, the basal two-thirds of costal margin dull ochraceous, cuneal area piceous ; membrane pale piceous, the margins very narrowly paler ; body beneath black ; legs ochraceous ; antennæ ochraceous, first and fourth joints somewhat piceous, first joint not reaching apex of head, second longest and stoutest, third and fourth subequal in length, fourth more slender than third ; head longer than breadth between the eyes, which are large and

prominent; pronotum about twice as broad at base as median length, base moderately concave, lateral margins oblique, slightly rounded, anterior collar moderately distinct and levigate, transversely impressed behind middle, the posterior area finely punctate; scutellum transversely gibbous at base, remaining area depressed, finely transversely wrinkled and punctate; hemelytra distinctly and somewhat palely pilose, clavus and corium finely punctate; rostrum slightly passing the anterior coxæ, ochraceous, the basal joint piceous.

Length $2\frac{1}{2}$ millim.

Hab. Calcutta.

Under leaf space of bamboo (*Annandale*).

Genus BLAPTOSTETHUS.

Blaptostethus, *Fieb. Wien. ent. Monatschr.* iv, p. 265 (1860); *Reut. Act. Soc. Sci. Fenn.* xiv, pp. 611 & 666 (1885).

Type, *B. piceus*, Fieb.

Distribution. Ceylon; Malay Archipelago.

"Body almost elongate, shining, moderately pubescent; head shortly prolonged behind eyes into a parallel-sided glabrous neck; eyes large, as laterally seen occupying the whole altitude of the head and longer than that altitude; rostrum long, first joint about half the length of the head, second joint almost more than two and a half times longer; antennæ with the first joint reaching apex of head, second distinctly thickened towards apex, third about half the length of second; pronotum transverse, trapeziform, lateral margins straight, but suddenly rounded a little behind apex, margins acute, anterior annulation absent or obsolete, posterior angles acute, base strongly sinuate, anterior part of disk with no furrow, posterior half strongly depressed; hemelytra with the embolium very straitened; membrane with only external vein distinguishable; metasternum trianugular, convex; anterior femora moderately thickened, beneath at middle with two obsolete tubercles, and behind middle (nearer apex) armed with two acute teeth, the first larger." (*Reuter.*)

I have not quoted Reuter's reference to the hamus in the cell of the wings, for, as Champion remarks on this character in the genus *Scoloposcelis*, which is included, owing to the supposed absence of the hamus, in Reuter's division Xylocoraria, "in the American species, as well as in one of the European forms, the hamus is often present." This structure is therefore of little generic importance.

3083. **Blaptostethus ceylanicus,** *Popp. Act. Soc. Sci. Fenn.* xxxvii, no. 9, p. 40 (1909).

Head, pronotum and scutellum shining black; apex of costal area to corium and the cuneus black, more opaque; clavus and corium piceous brown, about basal half of costal margin ochraceous; membrane brownish ochraceous, the basal area reflecting the dark

abdomen beneath; body beneath black; lateral margins of meso- and metasterna and the legs ochraceous; antennæ with the first,

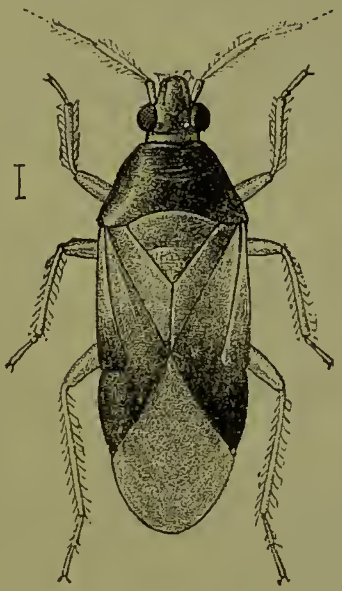

Fig. 173.—*Blaptostethus ceylanicus.*

second and third joints ochraceous, remainder mutilated in typical specimen now before me.

Length 3 millim.

Hab. Ceylon; Peradeniya (*Uzel, Vienna Mus.*).

3084. **Blaptostethus piceus,** *Fieb. Wien. ent. Monatschr.* iv, p. 270, t. vii, f. iv (1860); *Reut. Act. Soc. Sci. Fenn.* xiv, p. 667 (1885).

Var. pallescens, *Popp. Act. Soc. Sci. Fenn.* xxxvii, no. 9, p. 41 (1909).

Poppius has enumerated a variety of the typical *B. piceus*, Fieb., originally described from Celebes, as found in Bombay and East Africa. I have not seen this species or variety, and therefore have only drawn attention to it.

Family POLYCTENIDÆ. (Vol. III, p. 11.)

Dr. Speiser has recently contributed some notes on this Family (Rec. Ind. Mus. iii, p. 271, 1909). Seven species are enumerated in this paper, but only one recorded from British India, the *P. lyræ*, Waterh. (vol. iii, p. 11). Dr. Annandale, in 1908, found at Trivandrum in Travancore, on a specimen of *Cynopterus marginatus* a nymph, which in Speiser's opinion probably belongs to his *P. talpa* described from Nias. He however remarks that

P. spasmæ, Waterh., found on the Bat *Megaderma spasma*, L., from Java, may be perhaps a larval stage of *P. talpa*; should this be proved by specimens found later, the much older name given by Waterhouse has priority.

Speiser considers that the above-mentioned specimen, found by Dr. Annandale, proves that the Polyctenidæ may now be placed in close affinity with the Cimicidæ (vol. ii, p. 410).

Family PELOGONIDÆ. (Vol. III, p. 13.)

Genus **PELOGONUS**. (Vol. III, p. 13.)

Pelogonus marginatus. (Vol. III, p. 14).

Add: *Hab.* Bengal; Pusa, Mazaffapur (*Lefroy*), Calcutta (*Ind. Mus.*). Nepal; Jahada, Sukhwani, Gowchar (*Ind. Mus.*); Gorakhpur (*Ind. Mus.*); Agisamtengee, S. end of Kayangulam (*Annandale*). Bombay, Bor Ghat (*Dixon*); Orissa; Balighai (*Annandale*). Ceylon; off Dikwela (*Bainbrigge-Fletcher*), Colombo, Victoria Gardens (*Paiva*). Burma; Mandalay (*Annandale*), Rangoon (*Brunetti*).

Genus **MONONYX**. (Vol. III, p. 14.)

3085. **Mononyx projectus**, sp. n.

Greyishly pubescent; head between eyes about three times as broad as long, with two short but distinct projecting spines at middle of anterior margin; eyes large, a little recurved, brownish ochraceous, above interiorly fuscous; pronotum with the lateral

Fig. 174.—*Mononyx projectus.*

areas angularly dilated, basal margin but little wider than anterior margin, a distinct anteriorly directed spine at anterior angle behind and just beyond eyes and a smaller and more obscure spine

a little behind it, the lateral areas broadly obtusely angulate, their margins somewhat irregular and shortly setose; on the anterior disk a transverse series of three prominent nodules behind which is a transverse impression, between which and the basal margin are some curved longitudinal carinations, the most prominent of which are three on each side of middle; scutellum with the anterior and anterior lateral margins irregularly gibbous, the apex in appearance somewhat detached; corium sparsely and irregularly granulate, the interior area less prominently so, the lateral margins irregular and with short setose tufts, near base much more distinctly sinuate, the apical area before membrane somewhat broadly fuscous; membrane pale fuscous, scarcely passing abdominal apex; transversely and somewhat furcately veined; body beneath thickly, somewhat ochraceously pubescent; abdomen on each side with a sublateral segmental series of dark castaneous spots visible by the absence of pubescence; legs castaneous, apices of the femora and tibiæ black, anterior femora very robust and with a short spine near base of anterior margin, intermediate and posterior legs shortly setose, posterior tibiæ mutilated in typical specimen.

Length 9 millim.; breadth of pronotum $6\frac{1}{2}$ millim.

Hab. Assam; Sibsagar (*Coll. Dist.*).

3086. **Mononyx turgidulus**, sp. n.

Head, pronotum and scutellum more or less dark greyishly pubescent; hemelytra pitchy black; connexivum greenish ochraceous, with subquadrate piceous segmental spots; head between eyes about twice as broad as long, anterior margin shortly setose and with two short obscure spines at middle; eyes a little

Fig. 175.—*Mononyx turgidulus.*

recurved, brownish ochraceous, above interiorly fuscous; pronotum with the anterior and posterior margins subequal in breadth, the lateral margins moderately, subtruncately produced, the anterior disk moderately gibbous, but not prominently nodulose, finely granulose as seen between the pubescence, transversely impressed

at about one-third before basal margin, behind this impression longitudinally carinate, the most prominent carinations being six in number, the lateral areas are flatly ampliate, very much less pubescent and more ochraceous in hue, their margins shortly setose, prominently sinuate near anterior angles which are shortly obtusely spinous; scutellum with a short uprightly setose elevation on each side near base, its apex somewhat prominently tuberculous; corium thickly, finely granulose; membrane not reaching abdominal apex; connexivum broad, the posterior angles of the segments moderately angulate, the segments also moderately foveately depressed; body beneath palely fuscously pubescent, the lateral areas of the prosternum more or less ochraceous; abdomen with a sublateral fascia on each side united subapically, black in appearance caused by the absence of the paler pubescence; anterior legs fuscously pubescent, the tarsi castaneous at base and black at apex; intermediate and posterior legs more or less olivaceous, shortly setose.

Length $9\frac{1}{2}$ millim.; breadth of pronotum $6\frac{1}{2}$ millim.

Hab. Nepal; Gowchar (*Coll. Dist.*).

3087. **Mononyx spissus**, sp. n.

Brownish grey; head between the eyes more than twice broader than long, centrally distinctly produced where its anterior margin is finely crenulate, in the middle near base two small distinct tubercles; eyes brownish; pronotum with the basal margin distinctly broader than the anterior margin, the central disk

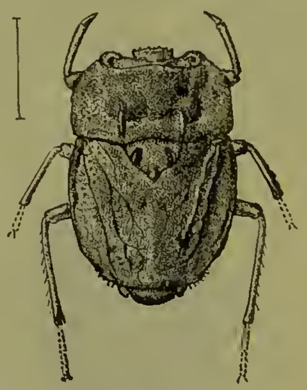

Fig. 176.—*Mononyx spissus.*

moderately gibbous, transversely impressed before anterior margin, a small foveation on each side near its middle, the outer margins of this raised area sinuate, and with a transverse sinuate impression at its posterior margin, between which and base are two widely separated longitudinal carinations; the lateral pronotal areas flattened and ampliate, their margins almost straight for half the distance from base and then oblique and slightly rounded to eyes, the basal margin distinctly sinuate, the whole surface finely, sparsely granulose; scutellum with three tubercles, one on each

side near base, the other and smaller at apex; corium sparingly, finely granulose, the lateral margins rounded; connexivum scarcely exposed except slightly near the membrane which does not reach the abdominal apex; body beneath fuscous, more palely pubescent; legs dark castaneous, the intermediate and posterior tibiæ shortly setose.

Length 10 millim.; breadth of pronotum $6\frac{1}{2}$ millim.

Hab. Assam; Sibsagar (*Coll. Dist.*).

Allied to *M. ampliatus*, Montand., from New Guinea.

Family NEPIDÆ. (Vol. III, p. 17.)

Genus **LACCOTREPHES**. (Vol. III, p. 17.)

3088. **Laccotrephes elongatus**, *Montand. Bull. Soc. Sci. Bucaresi*, xv, p. 330 (1907).

"Elongate, the lateral margins subparallel; head longitudinally carinate, the carination fairly obtuse, more or less tuberculous, uninterrupted; eyes small, somewhat projecting, very divergent behind, the intraocular space much enlarged, about twice broader in front than the greatest diameter of the eye; pronotum long, as long as broad, the lateral margins subparallel, scarcely enlarged on the posterior fourth, carinations of the anterior area very obtuse, and little elevated; scutellum long, longer than broad at base, the lateral margins slightly and obtusely sinuate near the apex, the carinations very little elevated and indistinct; elytra very little and very obtusely enlarged at middle, claval commissure nearly twice longer than the length of the scutellum and more than twice the breadth of the base of the scutellum; membrane brown, well developed, reticulate; abdomen above a deep brown, a little paler, nearly reddish, on the margins; wings a little hyaline; appendices shorter than the body, scarcely longer than the abdomen; anterior femora a little longer than the posterior breadth of the pronotum, with a strong tooth fairly elevated and obliquely subtruncate at apex, situate near the base at the lower or inner edge of the furrow which contains the tibia in repose; the inner lower edge of this furrow (which is only present close to the base [of the femur]) is also, but very obtusely, dentated, that is to say that the dilatation of the margin of the furrow is a little elevated near the basal angle; intermediate and posterior legs moderately slender, the intermediate tibiæ much shorter than their femora; prosternum with a small conical tubercle in front, regularly convex for its whole length." (*Montandon.*)

Length excl. appendages 20–26 millim.; length of appendages 17–20 millim.; breadth of pronotum at base 4·8–6 millim.

Hab. Bombay (*fide Montandon*); Bengal (*Coll. Dist.*).

This species is to be recognized by its elongate and subparallel form, and as regards the other species here enumerated by the distinctly conical tubercle to the prosternum.

3089. **Laccotrephes griseus** (to follow *L. maculatus*, vol. iii, p. 19).

Nepa griseus, *Guér. Iconogr. Règne Anim., Ins.* p. 352, pl. lvii, f. 7 (1829-1838).

Laccotrephes maculatus, *Stål* (part.), *Hem. Fabr.* i, p. 135 (1868); *Dist.* (part.) vol. iii, p. 19.

Laccotrephes griseus, *Montand. Ann. Mus. Zool. Napoli*, iii, n. 10, p. 3 (1910).

I formerly included this species as a synonym of *L. maculatus*, Fabr., thus following the decision of Stål (*supra*).* Dr. Montandon has, however, recently examined Guérin's types contained in the Zoological Museum of Naples and states that it is distinct from *maculatus*, Fabr., from which it differs in the following particulars. The strong acute tubercle situate on the anterior area of the prosternum, whereas that area is entirely straight and non-tuberculous in *L. maculatus*; also by the abdominal appendices being proportionately larger, and by the tooth at the base of the anterior femora being more obtusely rounded. In size and other respects it evidently represents *maculatus*.

Hab. Bengal (*fide Guérin*). Madras; Pondichery. Ceylon. Burma (*fide Montandon*). Malacca. Seychelles; Mahé (*fide Montandon*).

Laccotrephes griseus, Guér., must therefore now be regarded as a distinct species. Bombay specimens in my collection are undoubtedly *L. maculatus* as are also examples from Lobha. It also occurs at Calcutta, where it is very much scarcer than *L. griseus*.

Genus BORBOROPHYES.

Borborophyes, *Stål, Öfv. Vet.-Ak. Förh.* 1870, p. 706.

Type, *B. mayri*, Stål, from the Philippines.

Distribution. India; Philippines.

"Body oblongly-ovate, depressed; pronotum equally long as anteriorly broad, behind middle turned backwardly, moderately ampliate, disk furnished with two longitudinal rugosities, posteriorly transversely impressed, anterior margin medially behind head profoundly sinuate, posterior margin broadly moderately

* Dr. Montandon has given me the credit of this synonymy instead of quoting Stål as its author.

sinuate; scutellum equilateral, furnished with two rugosities; hemelytra beyond middle distinctly ampliated, subsequently roundly narrowed; clavus and corium 'connatis,' membrane rudimentary; wings short, extended somewhat beyond middle of abdomen; legs of moderate size, anterior femora incrassated, beneath sulcated, anterior tibia a little shorter than the femora, moderately curved; abdominal appendices short." (*Stål.*)

Differs principally from *Laccotrephes* by the posterior margin of the pronotum being much less sinuate, and by the rudimentary membrane.

3090. **Borborophyes erutus**, *Montand. Ann. Mus. Nat. Hung.* 1910, p. 164.

Dr. Montandon has described this species from the Khasia Hills and the type is contained in the U.S. Nat. Mus. Washington, so that I have been unable to see it. Montandon has given a very faithful and detailed description, occupying two and a half pages, which is beyond the scope of this publication. I hope eventually to see and figure an example, when a more condensed diagnosis will suffice.

Genus RANATRA. (Vol. III, p. 19.)

Dr. Montandon (Ann. Mus. Nat. Hung. 1909, p. 66) expressed the opinion that in this work I had probably confounded under the name of *R. filiformis*, Fabr., the closely allied forms of *R. longipes*, Stål, *R. varipes*, Stål, and *R. atropha*, Montand.* I had not at that time seen these species, but receiving fresh species recently I sent them for identification to Montandon who kindly complied with my request, so that I now possess these identified by himself and proving that I had not made the confusion he suspected. In Ann. Mus. Nat. Hung. 1910, p. 165, my friend also stated he could not accept my uniting *R. sordidula*, Dohrn with *R. unicolor*, Scott = *R. brachyura*, Horv. This, however, I had not done in this publication (vol. iii, p. 22), though I had, on insufficient material, suggested it previously and elsewhere.

3091. **Ranatra longipes**, *Stål, Öfv. Vet.-Ak. Förh.* 1861, p. 203; *Montand. Ann. Soc. Ent. Fr.* lxxvi, p. 56 (1907).

"This species is easily distinguished by its very long legs, the posterior femora reaching the extremity of the abdomen in the ♂, being a little shorter in the ♀; the eyes are strongly projecting, large, a little transverse, with the intraocular space a little narrower than the eye; the head convex without a pointed tubercle (though sometimes elevated on the middle of the

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* Since united to *R. varipes*, Stål.

vertex) but more or less distinctly prolonged triangularly in front, with the genæ narrowed from the eyes anteriorly and closely united with the tylus which exceeds them in front by half its length; anterior femora very long, about half as long again as the trochanters, bidentate beneath a little beyond the middle; the appendices a little less in length than the abdomen, the pronotum about or nearly half the length of the abdomen, more enlarged behind than in front, with the posterior area swollen for about two-fifths from base; the abdomen above generally clear, a little reddish in the southern examples, frequently brown, as in an example from China." (*Montandon.*)

Length excl. abd. append. 22 millim.

Hab. Bengal; Rajshai, Calcutta. Lucknow.—Malay Peninsula. Java. Borneo. China.

3092. **Ranatra varipes**, *Stål, Öfv. Vet.-Ak. Förh.* 1861, p. 203; *Mayr, Reise Nov., Hem.* p. 191 (1866); *Montand. Ann. Soc. Ent. Fr.* lxxvi, p. 57 (1907); *id. Ann. Mus. Nat. Hung.* 1909, p. 66.

Ranatra atropha, *Montand. Bull. Soc. Sci. Bucarest,* xii, p. 105 (1903).

Ranatra varipes *var.* atropha, *Montand. Ann. Soc. Ent. Fr.* lxxvi, p. 57 (1907).

" Very near *R. longipes*, Stål and from the same localities, hardly

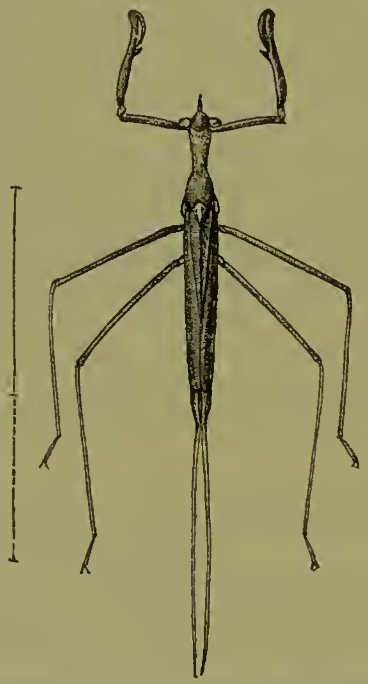

Fig. 177.—*Ranatra varipes*, var.

to be separated except by the posterior legs and the abdominal appendices which are shorter; the length is proportionally less,

and the intraocular space a little less constricted. The pronotum is of the same form in the two species, and in *varipes*, Stål, one also finds examples which only differ from the typical form by the subcylindrical pronotum, it being scarcely more enlarged behind than in front, and which I had described under the name of *R. atropha*, Mont.; at present I do not propose to consider this as more than a simple variety of *varipes*, Stål." (*Montandon.*)

I figure a black example with an ochraceous fascia at inner margin of eyes, which Dr. Montandon has returned to me labelled *varipes*, Stål, var.

Length excl. abdom. append. 19 to 20 millim.

Hab. Nepal; Khatmandu. Bengal; Fort Canning, Calcutta. Ceylon; Weligama (*Green*). Burma; Moulmein.

3093. **Ranatra distanti**, *Montand. Bull. Soc. Sci. Bucarest*, xix. p. 652 (1910).

Ashy brown; head with a distinct conical tubercle between the

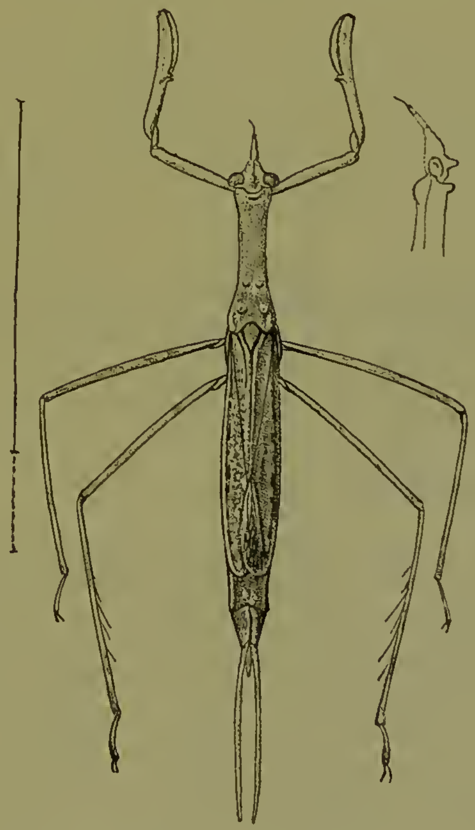

Fig. 178.—*Ranatra distanti.*

eyes, the face with a strong central longitudinal ridge, the surface very finely granulose; pronotum about as long as the anterior

tibiæ, the anterior margin very strongly and prominently ridged, two pairs of tubercles behind middle on basal third, the posterior pair larger and with foveate apices, basal margin very strongly sinuate, the posterior angles lobately rounded, the whole surface thickly minutely granulose; scutellum finely transversely striate; hemelytra mottled with brownish, the costal margin distinctly paler, preceded by a broken linear blackish fasciate line; membrane darker, reticulately veined, extending to little more than half of the last true abdominal segment; abdominal appendices apparently mutilated; prosternum with an impressed central longitudinal line; abdomen beneath with a fine central longitudinal ridge, the lateral segmental margins with distinct, short, transverse impressions; posterior tibiæ about as long as posterior femora, inwardly clothed with some long setose hairs.

Length excl. abd. append. ♀ 30 millim.

Hab. Nicobar Islands (*Rogers*, *Coll. Dist.*).

The typical specimen on which this species is founded has been examined and described by Dr. Montandon, who is recognized as our undoubted authority on this and allied families of aquatic Rhynchota.

Family NAUCORIDÆ. (Vol. III, p. 25.)

Genus GESTROIELLA. (Vol. III, p. 27.)

3094. **Gestroiella insignis**, sp. n.

Head slightly longer than breadth between eyes, testaceous brown, slightly transversely wrinkled and in places obscurely finely granulose; pronotum testaceous brown, on disk and anterior marginal area distinctly transversely striate, centrally depressed, the lateral margins oblique, slightly rounded, the posterior angles broadly acute and directed backward over the base of the hemelytra; scutellum testaceous brown; hemelytra pitchy brown, thickly finely punctate, about basal half of lateral margins and the internal suture distinctly paler in hue; connexivum testaceous brown, the first two (visible) segments posteriorly distinctly bi-spinose; body beneath testaceous brown, abdomen becoming piceous on apical area; anterior legs testaceous brown, intermediate and posterior legs ochraceous.

Length $17\frac{1}{2}$ millim.

Hab. Assam; Sadiya.

In general shape and size allied to *G. schoutedeni*, Mont., from

Fig. 179.—*Gestroiella insignis.*

Annam, but allied to *G. limnocoroides* (vol. iii, p. 27) by the structure of the anterior femora.

Genus DIAPHOROCORIS. (Vol. III, p. 28.)

3095. **Diaphorocoris dubreuili**, *Montand. Ann. Mus. Nat. Hung.* vi, p. 300 (1908).

"Head slightly convex, strongly inclined anteriorly, finely punctured, rugulose and on all the surface blackish brown, with two median impressions a little more accentuated, anterior margin narrowly pale yellow, the pale tint undulated behind with the prolongations on the brown patch of the disk which is a little embossed; the anterior margin of the head is moderately truncate, not folded backwards beneath . . . . ; rostrum very short; eyes divergent in front, somewhat enlarged and more convex behind, with a lateral triangular process concealing the anterior pronotal angle, intraocular space behind more than twice the width of an eye; pronotum very transverse, about two and a half times broader behind than the medial length, strongly sinuate on each side of the anterior margin behind the eyes, the posterior angles very broadly rounded, the surface punctate, granulose, unevenly embossed on the disk, uniformly dark brown on all the surface, very narrowly a little paler on the anterior and posterior margins, as also on the lateral margins; scutellum entirely black, granulose, nearly as long as the pronotum at middle, the lateral edges obtusely bisinuate; corium uniformly brown, excepting the base of lateral margin, abruptly dilated, suddenly rounded at the outer margin near base in the same manner as the posterior angle of the pronotum, subparallel afterwards, with the

rather elongate embolium scarcely contracted near its base, the basal two-thirds of the embolium lighter and narrowly yellow on the margin, the pale colour uneven at its internal edge; claval commissure shorter than the scutellum; membrane well developed and valvular, entirely black; connexivum plainly visible above . . .; body beneath uniformly black, except the lateral edges of the prosternum and the underside of the corium which are yellow; legs pale yellow." (*Montandon.*)

Length 10 millim.; max. breadth 5·4 millim.

Hab. Trichinopoly (*Dubreuil, Coll. Montand.*).

I have not seen this species.

Genus **HELEOCORIS**. (Vol. III, p. 29.)

I am now able to add four more species to the British Indian enumeration of this genus, and to figure three of the species formerly included but then not seen by the writer. Dr. Montandon, who is the special authority on these insects, has greatly assisted me in the determinations.

HELEOCORIS BREVICEPS. (Vol. III, p. 29.)

I now figure a specimen of this species which I have received

Fig. 180.—*Heleocoris breviceps.*

from the Bombay State, and which has also been identified as such by Dr. Montandon.

3096. **Heleocoris majusculus**, *Montand. Ann. Mus. Nat. Hung.* vi, p. 301 (1908).

"Oval in form, posteriorly enlarged, a little attenuated anteriorly, of a uniform dark brown, with the margins of the pronotum, the embolium and the connexivum yellow; head transverse, intraocular space a little less than twice as broad as long and very plainly more than twice broader than the width of an eye, internal margins of the eyes subparallel, slightly obtusely sinuate; . . . surface of the head superficially punctate, the punctuation a little granulose, more

visible in the posterior area of the vertex, two impressions, one before the other on each side near the eyes . . . . , anterior margin of the head obtusely rounded; . . . . pronotum very transverse, nearly three times broader than long, finely granulose, punctured on all the surface, with the anterior margin obtusely sinuate on each side behind the eyes, the lateral margins a little curved with the posterior lateral angles very broadly rounded, and also broadly clear yellowish . . . .; scutellum entirely black; corium with the outer margin curved; embolium very much dilated behind [? in front], moderately contracted posteriorly, margin narrowly yellow on the anterior three-fourths; claval commissure nearly as long as the scutellum; membrane black; connexivum yellow, with the posterior angles of the segments a little acuminate behind; body beneath pitchy brown." (*Montandon.*)

Length 13 millim; maximum breadth at middle of abdomen 8·8 millim.

Hab. Trichinopoly (*Dubreuil*). Burma; Shan States (*Coll. Distant*).

Dr. Montandon locates this species as near his *H. breviceps*, and remarks that at present it is the largest species of the genus yet described.

I have somewhat condensed the original description to the diagnostic limits imposed in the preparation of these volumes.

3097. **Heleocoris rotundatus**, *Montand. Ann. Mus. Nat. Hung.* vi, p. 302 (1908).

Head about half as long as breadth between eyes, thickly finely granulose, brownish ochraceous, centrally blackish; pronotum

Fig. 181.—*Heleocoris rotundatus.*

about three times as broad at base as medial length, brownish ochraceous, much suffused with blackish except on the lateral marginal areas which are ochraceous with a few minute black spots, the disk finely granulose and punctate, depressed and

transversely striate on the anterior area, a distinct transverse impression a little beyond basal margin but not extending much beyond the basal angles of the scutellum, the lateral margins distinctly rounded; scutellum black, its apex ochraceous, strongly and mostly transversely wrinkled; hemelytra black, thickly finely punctate, the basal lateral margins or lateral margins of embolium ochraceous, inwardly irregularly defined, claval suture longer than scutellum and apically spotted with ochraceous; connexivum ochraceous, very finely spotted with black; body beneath blackish, very thickly and finely shortly greyishly pilose; head beneath and legs ochraceous; abdomen beneath with a central longitudinal series of black spots, the lateral margins ochraceous.

Length 12 millim.; breadth 9·4 millim.

Hab. Trichinopoly (*Dubreuil, Coll. Montand. & Brit. Mus.*).

The figure is taken from a typical specimen received from Dr. Montandon.

HELEOCORIS OBLIQUATUS. (Vol. III, p. 31.)

When previously enumerating this species (*supra*), I mentioned that I neither knew it nor of any collection that contained an authentically identified specimen. I have recently received a specimen from Lower Burma which I submitted to Dr. Montandon,

Fig. 182.—*Heleocoris obliquatus.*

and he has identified it with little doubt as Spinola's *obliquatus*. I therefore now figure that specimen, and to the Habitat "Bombay" must be added Lower Burma.

3098. **Heleocoris vicinus**, *Montand. Bull. Soc. Sci. Bucarest*, xix, p. 655 (1910).

Head about twice as broad at base between eyes as medially long, rounded in front, ochraceous, irregularly speckled with black and with a central black spot widest at base and narrowed in front; pronotum more than twice as broad at base as medially long,

ochraceous, irregularly speckled and fasciated with black, the lateral margins pale ochraceous, distinctly subampliate and in a line with the lateral margins of the head, the posterior margin a little paler than the disk and finely spotted with black; scutellum black, its apex ochraceous; hemelytra black, lateral margin of corium pale ochraceous from the base nearly to middle, the black

Fig. 183.—*Heleocoris vicinus.*

coloration encroaching on it in the form of two macular suffusions; membrane black, scarcely extending beyond the abdominal apex; connexivum pale ochraceous with the posterior segmental margins black; body beneath and legs pale ochraceous, the inner margins of the tibiæ, especially of the posterior tibiæ, black; as seen beneath, the margin of the head between the eyes is black; posterior tibiæ somewhat longly spinulose.

Length 9 to 10 millim.

Hab. W. Bengal; Manbhum (*Hallowes*), Arabanga (*Fermor*). Travancore: Temalai, W. Ghats (*Annandale*).

Montandon's type is here figured.

3099. **Heleocoris bengalensis,** *Montand. Bull. Soc. Sci. Bucarest,* xix, p. 653 (1910).

Somewhat closely resembling the preceding species, *H. vicinus,*

Fig. 184.—*Heleocoris bengalensis.*

in general appearance, but with the head longer, not twice as

broad at base between eyes as medially long; body proportionally narrower and more elongate.

Length 9 millim.

Hab. W. Bengal: Manbhum (*Hallowes*).

Montandon's type is here figured.

HELEOCORIS ELONGATUS. (Vol. III, p. 31.)

I now figure a dark variety of this species, of which several have been recently received. "Indes orientales" being the only habitat

Fig. 185.—*Heleocoris elongatus*, var.

then recorded, it is satisfactory to be now able to locate it more precisely.

Add: *Hab.* Bengal; Paresnath (*Annandale, Ind. Mus.*), Matheran (*Pusa Coll.*).

Genus **NAUCORIS**.

Naucoris, *Fabr. Syst. Ent.* p. 693 (1775); *Fieb. Gen. Hydroc.* p. 16 (1851); *id. Eur. Hem.* pp. 32 & 102 (1861); *Stål, Hem. Afr.* iii, p. 176 (1865); *id. En. Hem.* v, p. 142 (1876); *Saund. Hem. Het. Brit. Islds.* p. 325 (1892); *Oshan. Verz. Pal. Hem. Het.* iii, p. 959 (1909).

Ilyocoris, *Stål, Öfv. Vet.-Ak. Förh.* 1861, p. 201; *id. Hem. Afr.* iii, p. 175 (1865); *id. En. Het.* v, p. 142 (1876).

Type, *N. maculatus*, Fabr., a Palæarctic species.

Distribution. Palæarctic, Ethiopian, Oriental, Malayan, and Australasian Regions.

"Broad, oblong, oval; head and eyes buried in the pronotum so that the sides of the pronotum, eyes, and front of the head form a continuous curve; head very wide, twice as wide as long; rostrum short, three-jointed, almost triangular; pronotum with the base only slightly wider than the anterior margin; elytra nearly (or quite) covering the apex of the abdomen; connexivum clothed at the sides with long hairs, with the posterior angles of the segments produced; anterior femora very much dilated, tibiæ curved,

the single-jointed, simple, clawless tarsi appearing as a continuation of the tibiæ, tarsi of second and third pairs of legs two-jointed, the posterior ones clothed with long natatorial hairs." (*Saunders.*)

3100. **Naucoris scutellaris**, *Stål, Freg. Eug. Resa, Ins. Hem.* p. 266 (1859); *id. En. Hem.* v, p. 145 (1876).

"Oval, palely testaceous-flavescent, very finely rugulose and punctate; head, pronotum, femora, and hemelytra irrorated with fuscous, the latter behind middle fuscous, a small spot on corium at membranal margin indistinctly testaceously flavous; scutellum blackish; beneath fuscous, marginal spots to abdomen testaceously flavous. Oval, moderately convex; head palely testaceously flavescent, very finely rugulose, sparsely minutely irrorated with fuscous; pronotum scarcely one-third broader than long, anteriorly slightly narrowed, laterally very slightly rounded, palely testaceously flavous, very finely rugulose, minutely irrorated with fuscous, except on the posterior and lateral margins, anteriorly with a small fuscous spot, posteriorly with many small black spots, anteriorly on each side a small marginal piceous spot; scutellum blackish, densely punctate; hemelytra very finely punctate, palely testaceously flavous, minutely irrorated with fuscous, behind middle fuscous, a small spot to corium at membranal margin indistinctly palely testaceous flavous; beneath piceous, lateral margin of sternum and subtriangular marginal spots to abdomen palely testaceously flavous; legs palely testaceously flavous, femora sparsely minutely irrorated with fuscous." (*Stål.*)

Length $6\frac{1}{2}$ millim.; breadth 4 millim.

Hab. Pondichery (*fide Stål*).—Java.

I have not seen this species.

3101. **Naucoris sordidus**, sp. n.

Head twice as broad at base between eyes as long, ochraceous

Fig. 186.—*Naucoris sordidus.*

or olivaceous, more or less speckled with fuscous; pronotum

ochraceous or olivaceous, speckled with fuscous, the lateral and posterior margins paler, the former with two small black spots, one at base, the other before middle, posterior marginal area with numerous elongate blackish spots ; scutellum either black or dark castaneous ; elytra piceous, clavus sometimes distinctly paler, corium with the base of lateral areas pale ochraceous or olivaceous ; connexivum very pale ochraceous or olivaceous, with transverse piceous spots ; body beneath and legs ochraceous or olivaceous, lateral abdominal margins with small black spots.

Length 5 millim.

Hab. Calcutta (*Annandale*). Travancore : S. end of Vembanaad Lake (*Annandale*).

3102. **Naucoris vividus**, sp. n.

Head more or less ochraceous, speckled with piceous, and with bright red speckles near basal margin, not twice as broad between eyes at base as long ; pronotum more or less ochraceous speckled with piceous, and with two large bright red spots on disk, lateral and posterior margins pale ochraceous, the first with a piceous spot near base and apex, the latter with three more or less distinct

Fig. 187.—*Naucoris vividus.*

irregular blackish spots ; scutellum dull black ; clavus and corium testaceous much mottled with piceous, the latter with the basal area of lateral margin pale ochraceous ; connexivum pale ochraceous spotted with black ; sternum and legs ochraceous ; abdomen beneath pitchy black with large pale ochraceous spots on lateral margins.

Length $5\frac{1}{2}$ millim.

Hab. Calcutta.

A broader species than the preceding *N. sordidus*, head longer, posterior margin of pronotum more straightly truncate, colour markings different.

Genus **THURSELINUS**. (Vol. III, p. 33.)

3103. **Thurselinus clathratus**, sp. n.

Body ovate, moderately convex; head testaceous, rather more than one-third broader between eyes than long, anterior margin rounded; pronotum testaceous, the lateral and posterior margins pale ochraceous, an obscure obconical impression at centre of anterior margin, a small piceous spot on each lateral margin before

Fig. 188.—*Thurselinus clathratus.*

middle; both head and pronotum obscurely granulose and thickly finely palely pilose; scutellum testaceous, obscurely finely granulose and finely palely pilose; clavus and corium testaceous, finely palely pilose, the latter with the basal area of lateral margins pale, greyish; membrane pale testaceous; connexivum greyish, posterior segmental margins testaceous, lateral margins with some large spinulose hairs, the angles of the posterior segments more or less acute; body beneath and legs brownish ochraceous, finely pilose.

Length 5 millim.

Hab. Calcutta.

Found in the tanks attached to the Indian Museum.

Family BELOSTOMATIDÆ. (Vol. III, p. 34.)

Genus BELOSTOMA. (Vol. III, p. 37.)

3104. **Belostoma deyrollei**, *Vuill. Ann. Soc. Ent. Fr.* 1864, p. 141, pl. i, f. 5; *Mayr, Verh. z.-b. Ges. Wien*, xxi, pp. 423 & 425 (1871).
Var. aberrans, *Mayr, tom. cit.* pp. 423 & 424.

" Clear ashy-brown, the whole of the pronotum and the lateral margins of the elytra sordidly testaceous; legs clear brown,

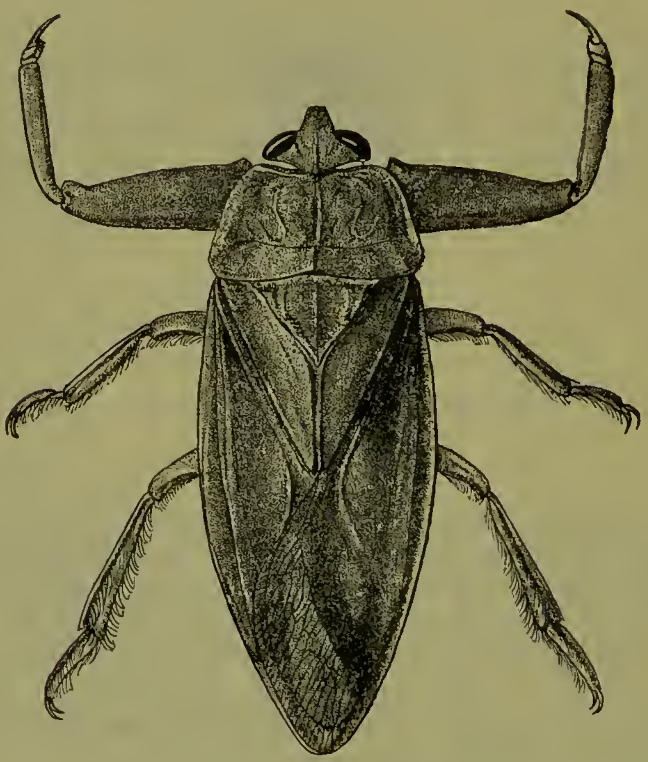

Fig. 189.—*Belostoma deyrollei*, var. *aberrans*.

marbled with some testaceous spots; head between the eyes triangular in form, strongly defined and not parallel as in the other *Belostomas*; pronotum in a half-circle; nervures of the membrane regularly reticulated." (*Vuillefroy*.)

Mayr founded his *aberrans* (which I here treat as a local form or variety) as having the lateral margins of the pronotum in the middle quite straight, in front strongly arched to the anterior

angles, whilst in typical *deyrollei* the lateral pronotal margins are more regularly arched; he also relies on other minor measurements, his measurements of the whole body do not, however, hold good.

Length 58–73 millim.

Hab. Assam; Brahmaputra River (*Lefroy*).—Japan. Corea.

Two specimens of this species were sent to me by Mr. Maxwell-Lefroy, taken at light on the Brahmaputra, where alone it has apparently yet been found in India. Mr. Lefroy writes: "It is found at light and requires to be handled with very great care as its puncture is poisoned and painful" ('Indian Insect Life,' p. 714). These remarks also exactly apply to my experience of *B. niloticum* in the Transvaal.

Family NOTONECTIDÆ. (Vol. III, p. 40.)

Considerable additions are now made to this Family, so far as the Indian fauna is concerned. Two more genera are included—*Nychia*, Stål, and *Helotrephes*, Stål. Three species are added to *Enithares*, two to *Anisops*, and two to *Plea*.

Subfamily NOTONECTINÆ. (Vol. III, p. 40.)

Genus **ENITHARES.** (Vol. III, p. 42.)

3105. **Enithares paivana,** sp. n.

Head (including eyes) and pronotum milky white, the foveately excavate anterior angles of the pronotum more or less black; scutellum black, its lateral margins milky white, broadest at base and containing at the basal angles an angulate brownish spot, the apex black; hemelytra milky white, apex of the clavus, about apical third of corium, and the membrane shining black; body beneath and legs pale greyish brown, a spot at apices of anterior and intermediate tibiæ, the tarsal claws, and a longitudinal line on the inner surfaces of the posterior legs, black; head with the vertex longer than its greatest breadth at apex, a little longer than the pronotum, its lateral margins sinuate and attenuate towards base, breadth at apex subequal to that of eye at base; pronotum more than twice as broad between humeral angles than the medial length; scutellum considerably broader at base than long; corium

a little longer than head, pronotum and scutellum together; posterior tibiæ about one-third longer than posterior tarsi.

Fig. 190.—*Enithares paivana.*

Length 10 millim.

Hab. Bengal; Madhupur (*Paiva*).

Allied to *E. indica*, Fabr. (vol. iii, p. 42), but head longer, less suddenly attenuate at base; colour markings very different.

3106. **Enithares rogersi**, sp. n.

Body above black; head (excluding eyes) and lateral margins of

Fig. 191.—*Enithares rogersi.*

the pronotum—neither reaching base nor apex—bright yellowish grey; an outer claval streak and a broader submarginal fascia to corium—not reaching apex—obscure dull greyish brown; face

greenish with two small brownish spots at base; sternum and legs brownish ochraceous; abdomen beneath black with the lateral margins narrowly brownish ochraceous; posterior legs beneath with a longitudinal black line; head with the vertex long and somewhat narrow, considerably longer than broad, about as long as pronotum, broadest at apex, attenuated towards base, its apical breadth distinctly less than basal breadth of an eye; pronotum more than twice as broad at the humeral angles as the median length, margins of the foveate anterior angles ochraceous; scutellum much broader at base than long; corium considerably longer than head, pronotum and scutellum together; posterior tibiæ nearly twice as long as posterior tarsi.

Length 9 millim.

Hab. Nicobar Islands (*Rogers*).

3107. **Enithares mandalayensis,** sp. n.

Head, pronotum and scutellum ochraceous, eyes black or castaneous; pronotum with a central piceous transverse fascia sometimes extending to base; clavus ochraceous, a black spot at base and a central oblique black fascia deflected at inner margin to apex, behind this fascia the colour is brownish ochraceous; corium

Fig. 192.—*Enithares mandalayensis.*

more or less blackish, usually becoming paler and more brownish towards apical margin; membrane hyaline, more or less reflecting the darker abdomen beneath; face, sternum, and legs ochraceous; abdomen beneath more or less blackish; posterior legs beneath with a longitudinal black line; vertex of head long, longer than pronotum, considerably longer than broad, broadest at apex, attenuated towards base, breadth at apex almost subequal to basal

breadth of an eye; pronotum about two and a half times as broad between humeral angles as the medial length; scutellum nearly twice as broad at base as long; corium only a little shorter than head, pronotum, scutellum, and clavus together; posterior tibiæ about twice the length of posterior tarsi.

Length 8 millim.

Hab. Burma; Mandalay, Rangoon (*Annandale*).

Genus ANISOPS. (Vol. III, p. 44.)

3108. **Anisops varius**, *Fieb. Abh. böhm. Ges. Wiss.* (5) vii, p. 483 (1851); *Kirk. Ann. Soc. Ent. Fr.* lxviii, p. 106 (1899); *Dist. Trans. Linn. Soc. Lond.* xiii, p. 38 (1909).

Anisops perpulcher, *Stål, Öfv. Vet.-Ak. Förh.* 1855, p. 89.

Anisops varia, *Kirk. Wien. ent. Zeit.* xxiii, p. 119 (1904); *Oshan. Verz. Pal. Hem. Het.* iii, p. 973 (1909).

Vars. sugillata & scutellata, *Fieb. tom. cit.*

Vertex of head narrow, sides almost parallel, eyes large and black; pronotum ochraceous, the whole central area, widest posteriorly, blackish; scutellum black with the apical and lateral margins ochraceous (in a specimen from the Philippines black with a greyish ochraceous spot on disk); hemelytra blackish grey, lateral margins (widest at base) greyish ochraceous; head beneath, sternum,

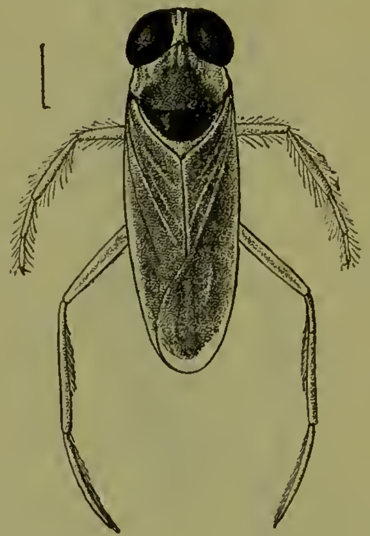

Fig. 193.—*Anisops varius.*

and legs ochraceous; abdomen black with a central longitudinal yellowish ridge.

Length 6 to $6\frac{1}{2}$ millim.

Hab. Travancore.—Philippines (*Simon, Brit. Mus.*). Eastern Palæarctic Region. North Africa. Seychelles.

I cannot structurally separate a specimen from Travancore

(here figured) nor one from the Philippines, from this variably coloured species.

3109. **Anisops? breddini**, *Kirk. Entomologist*, xxxiv, p. 5 (1901); *id. Wien. ent. Zeit.* xxiii, p. 117 (1904).

"The present species can only be confused superficially with *vitreus*, Sign., from Madagascar. In both sexes, however, of *breddini* the eyes are actually contiguous intero-posteriorly, while in *vitreus*, even in the males, the interior margins of the eyes do not touch together. This character is constant in eight *breddini* and thirty-seven *vitreus* that I have examined." (*Kirkaldy.*)

This is the only description of the species (without dimensions)

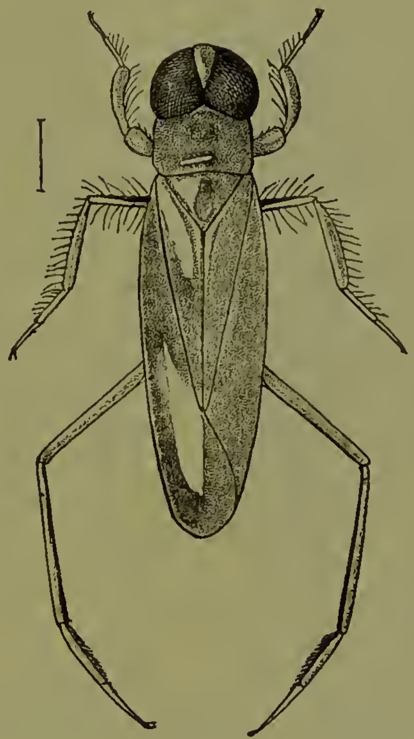

Fig. 194.—*Anisops ? breddini.*

given by Kirkaldy, and as the peculiar structure of the eyes is found in some Bengal specimens, one of which is here figured, I have concluded that those from Bengal and Celebes are the same. The colour is greyish yellow, the abdomen black beneath excluding a central longitudinal yellow ridge, and there is a black spot near the coxæ. It scarcely appears to be congeneric!

Length 7 millim.

Hab. Bengal; Port Canning, Dhappa, Calcutta (*Ind. Mus.*).—Celebes (*fide Kirkaldy*).

At Dhappa found in fresh water; at Port Canning in brackish pools.

Genus **NYCHIA.**

Nychia, *Stål, Freg. Eug. Resa, Ins. Hem.* p. 268 (1859); *id. Hem. Afr.* iii, p. 190 (1865); *Kirk. Boll. Mus. Torino*, xiv, n. 350, p. 9 (1899); *id. Wien. ent. Zeit.* xxiii, p. 125 (1904).
Antipalocoris, *Scott, Ent. Month. Mag.* viii, p. 244 (1872); *Puton, Syn. Hém. Hét. France*, pp. 215 & 216 (1880).

Type, *N. limpida*, Stål, from China.

Distribution. Palæarctic, Ethiopian, and Oriental Regions.

"Head: crown narrow, not produced in front as in *Anisops*; antennæ four-jointed, first joint short, second large, somewhat oval, flattened on the sides, third minute, fourth elongate, as long as the second and third together, narrow, somewhat lunate; eyes very large, curved with the head, viewed from above somewhat rhomboidal, with rounded angles, touching each other at the inner basal angle, from the side triangular, upper and under margin convex, apex rounded, posterior margin ε-shaped; rostrum stout, four-jointed, reaching to between the first pair of coxæ, first joint covered by the triangular labrum; pronotum short, posterior margin slightly concave across the scutellum; scutellum long, triangular, pointed, sides concave; elytra convex, without a clavus or membrane; embolium narrow, nearly as long as the corium; wings none; sternum long, sides densely clothed with fine long appressed hairs; prosternum short; mesosternum transverse, anterior margin in the middle with a callus, sides reflexed, xyphus rounded, apex considerably depressed; metasternum long, posterior margin in the middle triangular; legs: first and second pairs short, third very long; tibiæ: first pair at the apex with two short spines, lower margin with a few long, semi-erect, stout spinous hairs; tarsi: first and second pairs with the first joint twice as long as the second; claws: two on the first and second pairs subequal, on the third minute; thighs, tibiæ and tarsi of the third pair of legs of almost equal length." (*Scott.*)

"Very closely allied to the genus *Anisops*, from which it differs in not having the crown elongated nor the eyes separate, and in the not decidedly different proportions of the various parts of the hind legs." (*Scott.*)

I have given Scott's description of this genus under the name of *Antipalocoris* because it is fuller and more precise than that of Stål.

3110. **Nychia marshalli**, *Scott* (Antipalocoris), *Ent. Month. Mag.* viii, p. 245 (1872); *Kirk. Proc. Ent. Soc. Lond.* 1897, p. lvii; *id.* (Nychia) *Ann. Soc. Ent. Belg.* 1900, p. 435; *id. Wien. ent. Zeit.* xxiii, p. 125 (1904).
? Nychia limpida, *Stål, Freg. Eug. Resa, Ins. Hem.* p. 269, tab. iii, f. 8 (1859).
Nychia marshalli, var. sappho, *Kirk. Ann. Mus. Genova*, xv, p. 809 (1901).

"Very pale green, shining, after death almost white; elytra

with anterior margin black. Head: crown of face brown or green, below the base of the forehead an almost round depression extending to the inner margin of the eyes; antennæ pale green, second joint clothed with long brownish hairs, fourth joint clothed with long silvery ones, having besides a long fringe of the same along the convex margin; eyes large, dark brown; labrum piceous; rostrum, third and fourth joints black; pronotum short, shining, unpunctured; scutellum long, triangular; elytra pale green, almost white; corium: next the embolium with an elongate black streak at the base and another in the middle, connected by the black nerve, apex with a black patch; embolium for about two-thirds the length of the corium, black; anterior marginal nerve more or less green; sternum yellowish or greenish, sides thickly covered with very long, fine, black hairs; legs green, coxæ

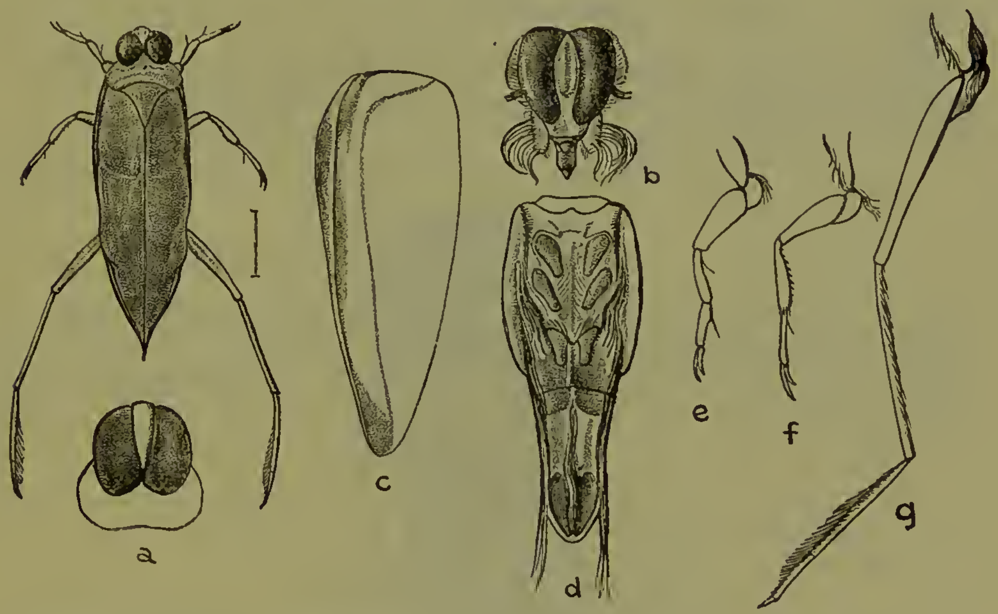

Fig. 195.—*Nychia marshalli.*

a. Head of mature insect showing eye; *b.* Underside of head; *c.* Elytron. *d.* Sternum and abdomen beneath; *e.* Intermediate leg; *f.* Anterior leg; *g.* Posterior leg.

of all the pairs brownish yellow; thighs: first and second pairs pitchy black, apex broadly green; tibiæ and tarsi green; claws black; third pair of thighs green, extreme base and apex on the inside piceous; tibiæ green, inner margin broadly black; tarsi green, inner margin black and with a dense fringe of short black hairs; abdomen above green, genital segments brown; underneath green, base and genital segments fuscous or black." (*Scott.*)

Length 2–2½ lines. Length of hinder legs 3–3½ lines.

Hab. Ceylon (*fide Kirkaldy*).—Africa; Congo (*fide Kirkaldy*). Europe; Corsica.

I include this species in the Indian fauna on the statement of Kirkaldy, that he had received specimens from Ceylon

which he could not separate from the cotypes of *N. marshalli* in his possession. Personally, to the time of writing I have not seen the species from the East, but consider there is little doubt as to its presence there, for Stål described a species, which may be conspecific with the above, from China. I have given figures, drawn by Mr. Knight under the microscope, of Scott's Corsican types in the British Museum, so as to prevent subsequent confusion.

Subfamily PLEINÆ. (Vol. III, p. 46.)

Genus **PLEA.** (Vol. III, p. 47.)

PLEA PALLESCENS. (Vol. III, p. 48.)

I figure a variety of this species in which the apex of the clavus and the apical area of the corium is more or less piceous.

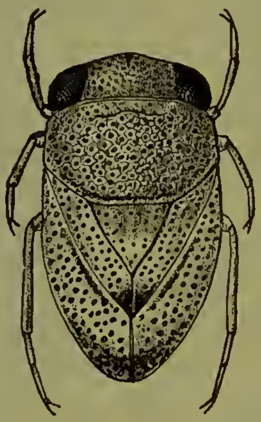

Fig. 196.—*Plea pallescens*, var.

Add: *Hab.* E. Bengal; Rajshai (*Annandale*), Lucknow (*Annandale*). Cochin State; Ernakulam (*Annandale*).

3111. **Plea pelopea,** sp. n.

Yellowish grey; head with four dark spots, two at base of vertex and two at base of face*, the disk distinctly punctate; pronotum thickly, coarsely, reticulately punctate; scutellum coarsely punctate with the basal area brownish ochraceous, the subapical area orange-yellow; elytra coarsely darkly punctate, clavus much less strongly punctate and with its apex darker, sometimes castaneous; clypeus and body beneath pitchy black; legs yellowish grey.

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* In these figures of Pleinæ, the artist has raised the head in profile in order that the upper surface may be better seen.

Length 2 to $2\frac{1}{2}$ millim.
Hab. Bengal; Calcutta, Madupur (*Paiva*).

Fig. 197.—*Plea pelopea.*

I have described this species with some hesitation; it may prove to be an extreme variety of *P. pallescens.*

3112. **Plea metiadusa**, sp. n.

Dull yellowish grey; vertex usually without maculate markings, but face with a central longitudinal castaneous line which is sometimes continued on vertex, the disk somewhat finely punctate;

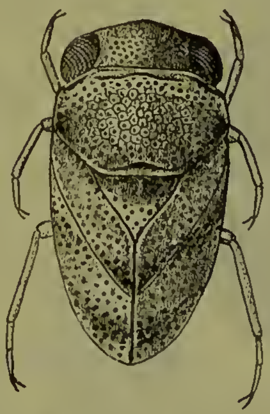

Fig. 198.—*Plea metiadusa.*

pronotum coarsely reticulately punctate, the anterior marginal area less reticulately punctate and paler than the remaining surface; scutellum coarsely punctate, the basal area distinctly piceous; elytra coarsely but less prominently punctate, crossed by two obliquely sinuate piceous fasciæ, one crossing apex of clavus, the other near apical margin; clypeus and body beneath black; legs ochraceous.

Length 2 millim.
Hab. Calcutta tanks.

Genus HELOTREPHES.

Helotrephes, *Stål, Freg. Eug. Resa, Ins. Hem.* p. 267 (1859); *Kirk. Wien. ent. Zeit.* xxiii, p. 129 (1904).

Type, *H. semiglobosus*, Stål, from China.

Distribution. Oriental and Malayan Regions; China; Madagascar.

"Body short, obovate, strongly convexly raised, subhemispherical, subcompressed, more highly raised anteriorly than posteriorly; head triangular, large, moderately convex, perpendicular, not clearly distinguishable from the thorax; eyes of moderate size; rostrum short, free, triarticulate, basal joint covered, second thickened, scarcely longer than broad, last joint nearly twice as long as the preceding; thorax transverse, posterior margin on each side suboblique; scutellum large, a third shorter than tegmina, suboblongly triangular, nearly half the width of base of body; tegmina cartilaginous, clavus absent; legs simple, tarsi with two claws, posterior nearly twice longer than anterior.

"Allied to *Plea*, body broader, much more raised, scutellum larger, clavus absent, eyes smaller." (*Stål.*)

3113. **Helotrephes indicus**, sp. n.

Head ochraceous, distinctly punctate, strongly deflected, vertex about three times as broad between eyes as medial length; pronotum about one-third broader at base than long, sparingly coarsely punctate, more or less olivaceous brown, the anterior area

Fig. 199.—*Helotrephes indicus.*

ochraceous with its posterior margin irregularly defined; scutellum brownish olivaceous, its basal margin distinctly paler, coarsely darkly punctate; corium dull ochraceous; coarsely darkly punctate; sternum and legs ochraceous; abdomen beneath black with the lateral margins ochraceous.

Length $1\frac{1}{2}$ millim.

Hab. Calcutta. Burma; Rangoon (*Annandale*).

Found at Calcutta in tanks in company with *Plea pallescens*, but much scarcer.

Family CORIXIDÆ. (Vol. III, p. 49.)

Genus MACROCORISA.

Macrocorisa, *Thoms. Opusc. ent.* i, p. 28 (1869); *Put. Synops.* i, p. 220 (1879); *Wallengr. Ent. Tidskr.* 1894, pp. 133 & 134; *Oshan. Verz. Pal. Hem. Het.* iii, p. 978 (1909).
Macrocorixa, *Buch. White, Ent. Month. Mag.* x, p. 62 (1873).
Corixa, *Kirk. Tr. Am. Ent. Soc.* xxxii, p. 152 (1906); *id. Entomologist*, xxxix, p. 79 (1906).

Type, *M. geoffroyi*, Leach.
Distribution. Palæarctic and Oriental Regions.

This genus is to be separated from *Corixa* (vol. iii, p. 49) by the following characters, as pointed out by Buchanan White (*supra*):—

Pronotum and elytra not rastrate. Asymmetry to left side in male	MACROCORISA.
Pronotum and elytra more or less rastrate. Asymmetry to right side in male............	CORIXA.

3114. **Macrocorisa geoffroyi**, *Leach* (Corixa), *Trans. Linn. Soc.* xii, p. 17 (1818); *Herr.-Sch. Wanz. Ins.* ix, p. 62, f. 914 (1853); *Thoms.* (Macrocorisa), *Opusc. Ent.* i, p. 28 (1869); *Buch. White* (Macrocorixa), *Ent. Month. Mag.* x, p. 76 (1873); *Saund.* (Corixa), *Hem. Het. Brit. Islds.* p. 333 (1892); *Oshan. Verz. Pal. Hem.-Het.* iii, p. 978 (1909).
Corisa striata, *Fall. Hem. Suec., Cim.* p. 181 (1826–29); *Kirk.* (Corixa) *Trans. Am. Ent. Soc.* xxxii, p. 153 (1906).
Corisa punctata, *Burm. Handb.* ii, p. 186 (1835).

"Greenish black, entirely smooth and shining; pronotum with sixteen to twenty irregular pale transverse lines; elytra, including

Fig. 200.—*Macrocorisa geoffroyi.*

the clavus and membrane, closely mottled with short vermiculate pale markings, irregularly punctured; legs testaceous, front tibiæ

of the ♂ with a spine at the apex, palæ elongate, parallel-sided, rounded on the upper margin close to the blunt apex, lower margin straight, of the ♀ elongate, curved, pointed; intermediate tibiæ simple, tarsi shorter than the tibiæ, claws hardly shorter than the tarsi" (*Saunders*). The head is ochraceous, as is also the body beneath and legs; in most of the specimens from India the vertex and face have a central dark line.

Length 13–14 millim.

Hab. Simla Hills; Theog and Kufri (*Annandale*). Yarkand (*Stoliczka*); and generally distributed throughout the Palæarctic Region.

Genus CORIXA. (Vol. III, p. 49.)

In previously dealing with this genus I was only able to enumerate one species for British India; I am now, principally owing to the exertions of Dr. Annandale, in a position to add seven more to the fauna, making eight in all. Of course this must be considered anything but final.

3115. **Corixa substriata**, *Uhler* (Corisa), *Proc. U.S. Nat. Mus.* xix, p. 275 (1896).

"Dark brown above, testaceous on the head and beneath, form of *C. striata*, Fieber. Head moderately blunt, the vertex wide, coarsely carinated, and with an acuminated brown callosity on the middle of the posterior margin, each side of the carina is an impressed, punctate line, another near the eye and an indentation, each side, next the occipital reflexed border; face moderately convex, hairy below, highly polished; pronotum dark brown, moderately short, triangularly rounded behind, radiated, crossed by seven somewhat curved, slender yellow lines, of which the two discoidal ones are sometimes interrupted at the inner end, apex with a very short yellow line, the margins dark brown, the middle anteriorly with a short callous carina, the lateral pieces narrow triangular, ivory-white; legs pale testaceous, fringe of the posterior tarsi blackish, palæ of the male narrower than in the female, falcate, a little curved towards tip, with the tibiæ thick and curved; wing-coverts dark brown, rastrate, base of clavus crossed by about six yellow, nearly entire and straight lines, the remainder is marked with short wavy bands decreasing to a single series towards tip; corium with two or three series of well separated wavy bands; membrane with the flexed bands shorter, less regular and more widely separated, sutures all pale yellow; embolium yellowish white, terminated by an aggregation of blackish marks in a long spot which is connected with a slender series of points which sometimes extend back to near the base; venter pale testaceous; facial fovea of the male subtriangular, short, narrow, shallow." (*Uhler.*)

Length 5½–6 millim.

Hab. Simla Hills; Theog (*Annandale*). Nepal; Khatmandu. Sikhim; Gangtok, 6150 ft. Naini Tal (*Ind. Mus.*). Bengal; Asansol (*Paiva & Caunter*). Ceylon; Hakgala (*Green*).—Japan (*Lewis, Coll. Dist.*).

3116. **Corixa promontoria**, sp. n.

Head ochraceous, prominent, considerably longer than width at base between eyes, about half as long as breadth of anterior margin of pronotum, with a central longitudinal ridge from the base of which a more obscure roundly oblique ridge proceeds on each side extending along the inner margins of the eyes; pronotum brownish ochraceous with about six transverse black lines, the lateral margins short and obtusely roundly angulate; the posterior margin moderately but distinctly convex; elytra brownish ochraceous mottled with blackish markings, those on the clavus being

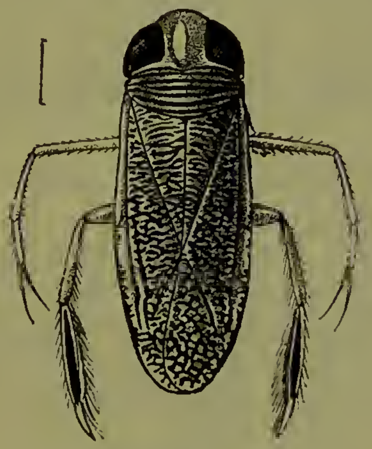

Fig. 201.—*Corixa promontoria.*

distinctly more linear and transverse, the costal margin broadly paler, on posterior half finely irregularly mottled with blackish; body beneath and legs more or less pale ochraceous; face long and of almost regular width throughout; posterior tarsi longer than the tibiæ and on upper surface streaked with black.

Length 6 millim.

Hab. Lucknow (*Ind. Mus.*). Ammangarh, Naini Tal (*Ind. Mus.*).

The salient character of this species is found in the long and prominent head.

3117. **Corixa affinis**, sp. n.

Allied to the preceding species *C. promontoria*, but differing in the following characters:—The head is shorter and broader, being about as long as breadth between eyes, on the facial region the inner margins of the eyes are more apically inturned, the face

being thus of less regular width; the posterior tarsi are streaked with pale fuscous rather than black.

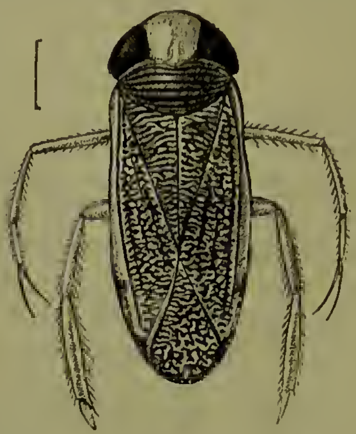

Fig. 202.—*Corixa affinis.*

Length 6 millim.

Hab. Nepal; Khatmandu and Chonebal (*Ind. Mus.*). Bengal; Katihar, Purneah Distr. (*Paiva*). Simla Hills; Theog (*Annandale*).

3118. **Corixa lima**, sp. n.

Head pale ochraceous, about as long as breadth between eyes, strongly centrally longitudinally ridged, the ridge a little angularly produced backward at basal margin, anterior margin rounded, almost in a line with the outer margins of the eyes, which are

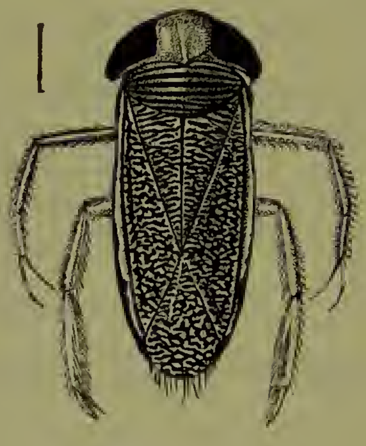

Fig. 203.—*Corixa lima.*

dark castaneous, broadly transverse, their apices subacute and directed backward beyond and over the anterior pronotal angles; pronotum pale ochraceous with light transverse castaneous lines, the lateral margins short and somewhat distinctly angulate; elytra pale ochraceous thickly mottled with castaneous, the

markings on the clavus being more linear and transverse, costal margin broadly stramineous, somewhat mottled with piceous near apex; body beneath and legs pale ochraceous; posterior tarsi more or less shaded with piceous.

Length 6 millim.

Hab. Bombay (*Dixon*).

A species to be structurally differentiated by the transverse projecting eyes, and to be recognised by its pale coloration.

3119. **Corixa apparens**, sp. n.

Head ochraceous, strongly centrally longitudinally ridged, somewhat narrow, a little longer than broad at base between eyes, slightly produced backwardly at base; eyes transverse, narrow, moderately projecting beyond and behind the anterior pronotal angles; pronotum pitchy brown, unicolorous, without transverse lines, posterior margin obliquely subacute, lateral margins short, suboblique; elytra pale ochraceous mottled with piceous, the

Fig. 204.—*Corixa apparens.*

mottlings on the clavus more linear and transverse, costal margin broadly stramineous, narrowly bordered on each side with a black line; membranal apical margins black; body beneath and legs very pale ochraceous; posterior tarsi broadly streaked above with black.

Length $5\frac{1}{2}$ millim.

Hab. Calcutta (*Annandale*).

This species differs from all others here and thus far enumerated by the unicolorous not fasciate pronotum.

3120. **Corixa distorta**, sp. n.

Head ochraceous, the lateral and basal margins distinctly pitchy black, longer than breadth at base between eyes, which are very large and project over the anterior angles of the pronotum; pronotum brownish ochraceous with about ten transverse blackish

lines, some of which are distorted, about twice as broad between the humeral angles as medial length, the basal margin angularly convex; elytra ochraceous mottled with dark castaneous, the costal margin broadly pale ochraceous mottled with castaneous on

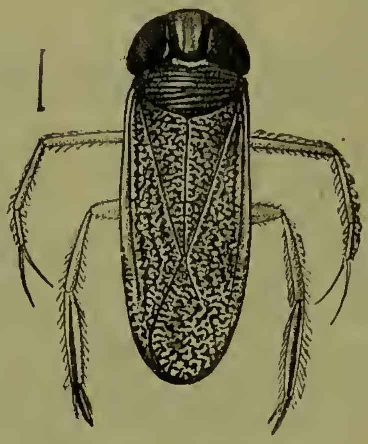

Fig. 205.—*Corixa distorta.*

its posterior area; body beneath and legs ochraceous; face margined with piceous, rounded at base, subobliquely widening between eyes; posterior tarsi streaked above with black.

Length $5\frac{1}{2}$ millim.

Hab. Nepal; Pharping.

A species to be distinguished by the narrow, blackly margined head, the numerous transverse blackish lines to the pronotum, &c.

3121. **Corixa verecunda**, sp. n.

Head ochraceous, distinctly longer than breadth at base between eyes, which are large and project beyond the anterior angles of the

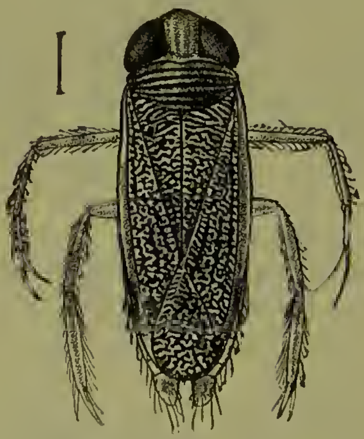

Fig. 206.—*Corixa verecunda.*

pronotum; pronotum ochraceous with about five transverse blackish lines, about twice as broad between humeral angles as the medial

length, the posterior margin subangularly convex; elytra ochraceous mottled with castaneous, the costal margin broadly pale ochraceous shaded with castaneous on its apical area; body beneath and legs ochraceous, face with the lateral margins straight not oblique; posterior tarsi streaked above with blackish.

Length $5\frac{1}{2}$ millim.

Hab. Nepal; Khatmandu.

Allied to the preceding species by the narrower head, but differing by the head and face not margined with blackish and by the latter having the lateral margins straight and parallel, not oblique, the fewer transverse blackish lines to the pronotum, &c.

Genus **MICRONECTA.** (Vol. III, p. 50.)

Only two species were included when previously enumerating those of *Micronecta* as found in British India. Fourteen are now added, bringing up the total to sixteen species. Three of these were described and figured by Fieber under the locality "Ostindien." These I then hesitated to include on such a loose habitat without corroboration, but as some of my colleagues have dissented from that restriction I have followed their opinion, especially as of the four described by Fieber I have now received two species. Figures are given of the species described as new. Fieber has figured his; and the only problems are those described by Kirkaldy, which are in some cases insufficiently diagnosed and which I have had no opportunity of seeing.

3122. **Micronecta lucina,** sp. n.

Head ochraceous; eyes black; pronotum, scutellum and elytra olivaceous-brown marked with pitchy-black fasciate lines; pronotum with two transverse lines, the anterior one broken in the

Fig. 207.—*Micronecta lucina.*

middle; scutellum with a transverse fasciate line near base; clavus with three oblique fasciate lines on each side, the outermost marginal; corium with four longitudinal fasciate lines, the outermost and innermost united before apex, two lateral marginal lines, the intervening paler space between them a little notched near

middle, the apical margin also pitchy black; body beneath and legs pale ochraceous, posterior tarsi streaked with blackish; head between eyes nearly twice as broad as medially long, moderately centrally longitudinally ridged and with a small central tubercle at base.

Length $2\frac{1}{2}$ millim.

Hab. Bengal; Madhapur (*Paiva*), Calcutta, Canning, Rajshai (*Annandale*); N. Dacca, Fenapore (*Brit. Mus.*). Malabar; Cochin State, Ernakulam (*Annandale*). Ceylon; Weligama (*Fletcher*).

At Calcutta this species has been taken at light; at Canning Dr. Annandale found it in brackish-water pools.

3123. **Micronecta thelxinæ**, *Kirk. Entomol. News*, xvi, p. 262 (1905).

"Head and underside pallid. Pronotum and scutellum dark brownish grey, tegmina pale flavo-griseous, the pronotum very narrowly pallidly margined, tegmina ornamented with pale brownish somewhat as in *M. siva*, Kirk. [=*M. striata*, Fieb., vol. iii, p. 50], but more faintly. Head a little longer than the pronotum, the latter being elongate, elliptical, lateral margins very short (meeting actually laterally in an acute angle). Mesoxyphus rounded posteriorly. Intermediate femur about one-seventh longer than the tibia, tarsus, and claw together; tibia one-half longer than tarsus, which is slightly more than half the length of a claw." (*Kirkaldy.*)

"Length 2 millim."

Hab. Ceylon (*fide Kirkaldy*).

I have not seen any species which corresponds with this description.

3124. **Micronecta lineata**, *Fieb.* (Sigara) *Ent. Monogr.* p. 15, pl. i, fig. 25 (1844).
Micronecta notata, *Kirk. Entomol. News*, xvi, p. 261 (1905).
Micronecta M-notata, *Kirk. Canad. Ent.* xl, p. 209 (1908).

"Blackish grey with fine lines; pronotum blackish grey with darker marginal and median lines; corium with three longitudinal lines connected at base, the outer one united with a submarginal line in the middle, marginal area with fine spots. Blackish-grey; head yellowish-white with two dashes above the triangular column of the face, on the vertex between and at the eyes a blackish line; pronotum blackish grey with darker lines in middle and on the front and hind margins; from the base of clavus a forked line running obliquely towards tip of pronotum, on terminal margin a fine line which in terminal angle unites with a line at terminal suture forking from the middle and running towards the base of clavus, marginal area with four or five marginal spots; corium with three brown lines widened at end and connected by a line at terminal suture, the outer curved

line united with a bent submarginal line at the middle; underside and legs yellowish white, coxæ blackish." (*Fieber.*)

Length " $1\frac{1}{3}$ lines."

Hab. " Ostindien " (*Dr. Helfer*).

I have not seen this species.

3125. **Micronecta malabarica**, *Kirk. Canad. Entomol.* xl, p. 209 (1908)

" The general characters are those of *M. albifrons*, Motsch. [= *M. striata*, Fieb. vol. iii, p. 50], but the tegminal picturation is very faint; there is no trace of a transverse line on the distinctly longer pronotum, and the interior margin of the vertex is also in a direct line with that of the eyes." (*Kirkaldy.*)

" Length 4 millim."

Hab. Malabar Coast (*fide Kirkaldy*).

I have not seen this species.

3126. **Micronecta minthe**, sp. n.

Head ochraceous with frequently a darker suffusion at base, where there is a small indistinct central tubercle; eyes black; pronotum and scutellum olivaceous brown; elytra olivaceous brown, the lateral margins distinctly paler and containing three

Fig. 208.—*Micronecta minthe.*

linear dark spots, the disk showing three more or less distinct dark longitudinal fasciate lines; clavus sometimes with the anterior margin broadly paler; body beneath and legs pale ochraceous; apex of clypeus and streaks to posterior tarsi black; head shorter than breadth at base between eyes, subequal in length to pronotum, anterior margin almost in a line with the outer margin of the eyes.

Length $2\frac{1}{2}$ to 3 millim.

Hab. Bengal; Calcutta (*Paiva*), Sara Ghat (*Jenkins*), Rajshai (*Annandale*). Tinpahar near Rajmahal (*Annandale*). Orissa; Puri Distr. (*Annandale*). Travancore; W. Ghats, Vembanaad Lake, Quilon (*Annandale*). Ceylon; Peradeniya (*Green*), Dikwela, Hambantota, Tangalle, Weligama (*Bainbrigge-Fletcher*).

In several respects this species seems to agree with some of the characters given in the very short description by Kirkaldy of his *M. malabarica* (*supra*), but it is a considerably smaller insect and no mention is made of the distinct dark linear spots to the pale costal margin of the elytra.

This species comes to light at Calcutta. Dr. Annandale found it in pools at edges of the River Ganges.

3127. **Micronecta dione**, sp. n.

Head pale ochraceous with a central pale castaneous longitudinal line, which is continued on the face between the eyes, above frequently with a more indistinct pale castaneous line near the inner margins of the eyes; pronotum pitchy black with the posterior margin pale ochraceous; elytra blackish grey, the costal margin and margins of the clavus (anterior margin broadly) pale ochraceous, the costal margin with at least two linear dark spots,

Fig. 209.—*Micronecta dione.*

apical spot to clavus and four more or less broken fasciate lines to corium pitchy black; body beneath and legs very pale ochraceous, apex of clypeus broadly black; head nearly twice as broad at base between eyes as medial length and almost as long as pronotum, which has an obscure central longitudinal ridge.

Length 4 millim.

Hab. Bengal; Asansol (*Paiva & Caunter*), Calcutta (*Paiva*). Comes to light at Calcutta.

3128. **Micronecta proba**, sp. n.

Head ochraceous; pronotum, scutellum, and elytra dark olivaceous brown; posterior margin of the pronotum (narrowly), anterior margins of clavus, claval suture (very narrowly), and lateral margins of elytra ochraceous, the latter containing near middle a longitudinal broken piceous line; body beneath and legs

ochraceous; head almost twice as broad at base between eyes as medial length, shorter than pronotum, with a more or less distinct central longitudinal ridge and an obscure tubercle near base; elytra with four obscure darker longitudinal fasciate lines;

Fig. 210.—*Micronecta proba.*

posterior tarsi streaked with piceous; face frequently with a castaneous central line, the clypeus castaneous.

Length 4 millim.

Hab. Bengal; Calcutta, Rajshai (*Annandale*); Lucknow. Burma; Mandalay (*Annandale*).

In some varieties of this species the colour is more ashen-grey than olivaceous-brown, and the fasciate lines to the elytra are more indistinct and broken; the broken piceous line in the pale ochraceous lateral margin of the elytra is frequently more prominently dislocated and exhibits two distinct lineate spots.

3129. **Micronecta thyesta**, sp. n.

Allied to the preceding species *M. proba*, but smaller in size, the dark coloration more ashen-grey than olivaceous-brown, the

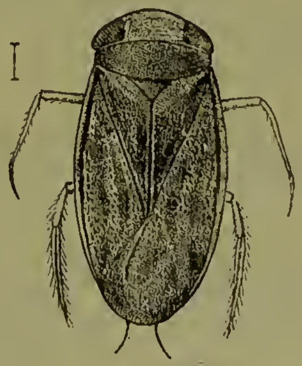

Fig. 211.—*Micronecta thyesta.*

anterior margin of the clavus only obscurely ochraceous, the fasciate dark lines to the elytra fewer and more broken; head

broader between the eyes where it is distinctly twice as broad as long, almost as long as pronotum, which is shorter and more transverse than in *M. proba* and without the pale basal margin; elytra with a more or less distinctly continuous piceous fasciate line on the lateral pronotal margins.

Length 3 millim.

Hab. Bengal; Madhupur.

3130. **Micronecta issa**, sp. n.

Head dull ochraceous; pronotum and scutellum castaneous brown; elytra castaneous brown, the apical and sublateral areas of the corium irregularly paler in hue, lateral margin for about

Fig. 212.—*Micronecta issa.*

two-thirds its length pale ochraceous and containing four brown spots; body beneath and legs ochraceous; head medially more than half as long as breadth at base between eyes, as long as pronotum, with two raised lines between the eyes, roundly united anteriorly and posteriorly obliquely uniting at a small central tubercle.

Length 3 millim.

Hab. Calcutta (*Ind. Mus.*). Travancore; Nedumangad near Trivandrum (*Annandale*).

3131. **Micronecta grisea**, *Fieb.* (Sigara) *Ent. Monogr.* p. 14, pl. i, f. 21 (1844); *Kirk.* (Micronecta) *Entomol. News*, xvi, p. 261 (1905).

"Yellowish grey; an angular stripe on clavus, a streak and a dot at base of corium, a Λ-shaped mark on middle of corium, followed behind by a streak and dot, blackish. A large species: above yellowish grey; pronotum blackish grey, posteriorly pale margined; on middle of clavus an oblique angularly broken blackish stripe, in base of corium a dot and a longitudinal streak, on middle outward a Λ-shaped mark, followed posteriorly and inwardly by a streak and a dot at inner angle; the somewhat

distinctly separated membrane on the right tegmen shining, hyaline; underside and legs yellowish white." (*Fieber.*)

Length "1½ line."

Hab. "Ostindien" (*Dr. Helfer*).

I have not seen this species.

3132. **Micronecta memonides,** *Kirk. Entomol. News,* xvi, p. 262 (1905).

"Head pallid. Pronotum and tegmina dark smoky brown with purplish reflections, lateral margins more or less pallid. Underside black, except trochanters, femora, tibiæ, tarsi and claws, and posterior margin of abdomen, all of which are pallid. Tegmina smooth and polished. Head a little longer than pronotum, rounded in front. Pronotum elongate elliptical, lateral margins about as long as half the width of the posterior margin of an eye. Mesoxyphus rounded. Intermediate tarsus nearly twice as long as the tibia, which is subequal to a claw. Subcostal furrow much as in *M. vanduzeei* (from the Philippines)." (*Kirkaldy.*)

"Length a little less than 2 millim."

Hab. Ceylon (*fide Kirkaldy*).

I have not seen this small species. It seems to be peculiar by the black underside of the body.

3133. **Micronecta punctata,** *Fieb.* (Sigara) *Ent. Monogr.* p. 15, pl. i, f. 26 (1844); *Kirk.* (Micronecta) *Entomol. News,* xvi, p. 261 (1905).

Head ochraceous; pronotum and scutellum shining ochraceous brown; elytra greyish brown, anterior margins of the clavus and the lateral marginal area of the corium pale ochraceous, the latter with three elongate blackish spots; clavus and corium with scattered black punctate spots, at apex of membranal area two darker transverse fasciæ divided by a series of blackish punctures; body beneath and legs more or less ochraceous; head about as long as pronotum and about half as long as basal width between eyes.

Length 3 to 3½ millim.

Hab. Orissa; Sur Lake, Puri Distr. (*Annandale*). Travancore; Vembanaad Lake (*Annandale*).

I have seen two specimens, one from each of the two above localities, which seem to agree well with Fieber's figure.

3134. **Micronecta merope,** sp. n.

Head ochraceous, the eyes black; pronotum castaneous-brown; scutellum ochraceous; elytra olivaceous brown with small scattered black spots, the lateral margins and the anterior third of the

clavus ochraceous; body beneath and legs pale ochraceous; head large, longer than half the breadth at base between eyes, about as long as pronotum and scutellum together, with a central impressed longitudinal line and a distinct tubercle at base; pronotum

Fig. 213.—*Micronecta merope.*

transverse and narrow, the lateral margins very short; elytra with the lateral margins moderately convexly rounded.

Length 3 millim.

Hab. Bengal; Canning (*Annandale*), Rajshai (*Annandale*).

Dr. Annandale at Canning found this species in "brackish-water pools"; at Rajshai in "tanks."

3135. **Micronecta dædala**, sp. n.

Length of head a little more than half the breadth between eyes, ochraceous, a small central dark tubercle at base; pronotum short, transverse, medial length about one-third the breadth between humeral angles, lateral margins very short, obtusely

Fig. 214.—*Micronecta dædala.*

angulate, dark umber-brown; scutellum ochraceous; elytra dull ochraceous, distinctly punctate; clavus (excluding anterior margin), more than anterior half of corium (excluding basal halves of marginal and submarginal areas), membranal margins, and a

spot before apex fuscous-brown; body beneath and legs ochraceous, abdomen beneath suffused with fuscous-brown ; intermediate claws long.

Length 2 millim.

Hab. N.E. Himalayas ; Kurseong, 5000 ft. (*Annandale*).

With this volume terminates the enumeration and description of the Heteroptera of British India. Since the first part of the Appendix was published, species have been described by other writers in the Families therein included, and other undescribed species have been received by myself. Some have been described since the earlier pages of this volume went to press. It is impossible to go back again on the old ground, and I look forward to continuing additions to the Heteroptera in some other publication.

The Appendix to the Homoptera has still to be written and will form Vol. VI of the Rhynchotal series and finish this subject in the volumes of the 'Fauna of British India.'

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